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Acknowledgments

The NHTSA and IACP would like to thank the following individuals for their contributions in updating and revising the DRE curricula.

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Oregon State Police
DRUG EVALUATION AND CLASSIFICATION TRAINING
"THE DRUG RECOGNITION EXPERT SCHOOL"

ADMINISTRATOR'S GUIDE

JANUARY 2007
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A. Purpose of this Document

This Administrator's Guide provides an introduction to and an overview of the seven-day classroom training course on drug evaluation and classification. This course is perhaps better known as The DRE School. It is the second in a series of three stages of training that, collectively, prepare persons to serve as Drug Recognition Experts (DREs).

Throughout this manual, the term "DRE" is used to designate an individual who is specially-trained to conduct examinations of drug-impaired drivers. In some participating agencies, the term stands for "Drug Recognition Expert"; in others, it means "drug recognition evaluator", and in others, "drug recognition examiner". In addition, some agencies use the term "DRT" -- Drug Recognition Technician -- and others prefer "DRS" -- Drug Recognition Specialist. All of these and similar terms are acceptable and considered synonymous. But for this training program, the standard term is DRE.

It is worth repeating that this seven-day DRE School is neither the beginning nor the end of an officer's preparation to serve as a DRE. No one can be admitted to this course unless he or she has successfully completed the two-day program titled "Preliminary Training for Drug Evaluation and Classification" (the "PRE-School"), or demonstrates that he or she has mastered the subject-matter of that PRE-School via previous training and experience. And, the fact that an officer successfully completes this seven-day program does not qualify him or her to serve as a DRE. He or she still must complete the Certification Phase of training, a supervised on-the-job phase in which the trainee conducts examinations of persons actually under arrest on suspicion of drug impairment.

This seven-day course, then, is only the middle phase of DRE training. But it is a very important phase. It is during this phase that the student will learn to conduct systematic and standardized examinations of persons suspected of drug impairment to determine:

(1) Whether the suspect actually is impaired; and if so,

(2) Whether the impairment is drug- or medically-related; and if drugs,

(3) The broad category or combination of categories of drugs that is the likely cause of the observed impairment.
This Administrator's Guide is concerned only with the second phase of training. During this phase, the student becomes familiar with the various types of drugs that people use and -- too often -- abuse. The student learns how the different drugs affect people, and especially how they affect a person's ability to operate a vehicle. The student learns how the different drugs manifest their presence in an individual. In particular, the student learns how to examine a suspect's eyes and vital signs to detect evidence of various kinds of drugs. By the time the student successfully completes the training, he or she is able to conduct a complete drug evaluation and classification examination, and is able to describe the evidence that the examination will disclose to help determine if the suspect suffers a medical condition or if a suspect is under the influence of a particular category or combination of categories of drugs.

This Administrator's Guide is intended to facilitate planning and implementation of the Drug Evaluation and Classification Classroom Training Program. The Guide overviews the 7-day course of instruction, and the documents and other materials that make up the curriculum package for the course. It describes course 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 course can be offered to that agency's personnel. And, it outlines the follow-up work that should be undertaken to ensure that the highest possible quality of instruction continues to be delivered, during all phases of a DRE's training.

Before addressing the details of this classroom training in Drug Evaluation and Classification Program procedures, a few words are appropriate concerning the procedures themselves. **In particular, it is important to make clear what the Drug Evaluation and Classification Program procedures are not:**

- These procedures are **not** a field test, or a pre-arrest investigative tool. It is highly unlikely that they could be conducted with adequate care in an outdoors, scene-of-investigation setting. In any event, they are not designed to provide probable cause for a suspect's arrest. Rather, they are a post-arrest investigative tool, intended for application to arrestees for whom there is at least some articulable suspicion of drug use or drug impairment.
These procedures do not, generally speaking, disclose what specific drug or drugs the suspect has used. That may seem to be a startling, and upsetting statement. Nevertheless, it is true. What the procedures will do, however, is to disclose (with reasonable accuracy) the broad category or combination of categories that produce distinguishable "signatures" visible to a qualified DRE. Some of the categories include relatively few individual drugs. Others include many drugs. The DRE can tell, usually, if a particular category is present. But except in special circumstances, he or she cannot tell which individual member of that category is the drug in question. Thus for example, a DRE usually will not be able to distinguish a person impaired by diazepam from a person impaired by secobarbital. Will not be able to tell the difference between a codeine-impaired subject and someone under the influence of Demerol. Won't see a difference between someone under the influence of peyote and someone under the influence of psilocybin.

The procedures are not a substitute for chemical testing. Laboratory analysis of blood samples by qualified personnel remains an important step in the acquisition of evidence in drug-related cases. The drug evaluation and classification procedures provide articulable bases for requesting a suspect to supply the urine or blood sample; guide the laboratory technicians toward the general categories of drugs they can expect to find in the sample; and, disclose important evidence to supplement the laboratory analysis. But the drug recognition expert does not eliminate the need for the laboratory technician.

None of the foregoing remarks is intended to lessen the importance of the drug evaluation and classification procedures. A cadre of skilled DREs definitely will enhance a department's ability to recognize and convict persons under the influence of drugs. The DRE is a very important "weapon" in law enforcement's anti-drug arsenal. But the DRE is not the entire arsenal.

One final word of introduction: the primary orientation of this course is toward traffic law enforcement. Without doubt, persons under the influence of drugs endanger society in many ways. But it is the danger they cause as drivers of motor vehicles that is of principal interest here. This course assumes that the DRE will devote his or her skills in large part to conducting examinations of suspected impaired drivers. This is not to say that the skills that this training seeks to develop do not have many non-traffic applications. Nevertheless, it is the traffic applications that will receive most of the student's attention.
B. Overview of the Course

1. For whom is the training intended?

This training definitely is not intended for just anyone. The candidate DRE isn't just any police officer, but an officer who already has some very special knowledge and skills, and a very definite commitment to DWI and drug enforcement. And, that officer isn't employed by just any department. Instead, he or she works for a department that has taken pains to provide the command and logistics support needed to allow the DRE to function at maximum effectiveness. And the department has concrete proof of its commitment to deterring impaired driving. Finally, that department doesn't serve just any community or state. Instead, it operates in a jurisdiction that has a legal and political framework that is consistent with effective enforcement of drug-impaired driving violations.

The following lists the prerequisites and desirable characteristics of the students for whom this training is intended; of the departments that employ those students; and, of the communities served by those departments.

a. Student Prerequisites

To be considered a qualified candidate for this training, the proposed student must be a law enforcement officer or an employee of a public criminal justice agency or an institution providing law enforcement training, and must:

- have achieved the learning objectives of the two-day PRE-School;
- have demonstrated proficiency in the use of the Standardized Field Sobriety Tests (i.e., Horizontal Gaze Nystagmus, walk and turn and one leg stand);
- have good communications skills, and a demonstrated ability to testify in court;
- be willing to continue to serve as a DRE for at least two years following completion of the training.

Of course, it is highly desirable, although not essential, that the proposed student have prior knowledge of drug symptomatology and experience in drug enforcement.
b. **Departmental Prerequisites**

To be considered qualified to submit students for this training, the interested law enforcement agency must:

- have active drug enforcement and DWI enforcement programs;

- be pro-active in training officers in Standardized Field Sobriety Testing; also, the training must be consistent with NHTSA guidelines, and the agency must maintain records of officers' Standardized Field Sobriety Testing enforcement activities;

- have access to adequate chemical testing resources to support the drug evaluation and classification program, and ensure effective prosecution of drug-impaired subjects;

- have adequate facilities and equipment to support the drug evaluation and classification examinations;

- have a management information system (MIS) capable of accurately tracking alcohol and drug enforcement activities;

- demonstrate the firm support and commitment of the chief law enforcement officer and other appropriate officials for the drug evaluation and classification program. Evidence of this support includes but is not limited to:

  - Willingness to assign at least one person of supervisory rank to become a certified DRE and to manage and coordinate the agency's Drug Evaluation and Classification Program.

  - Willingness to upgrade the agency's MIS, as necessary, to track progress of DRE training; drug and DWI arrests; DRE evaluations; results of toxicological examinations; and, case filings and dispositions.

  - Willingness to conduct DRE training in a manner that complies fully with NHTSA curricula and guidelines.

  - Willingness to adopt NHTSA-approved DRE evaluation forms.

  - Willingness to authorize DREs and DRE candidates to devote sufficient time to the DRE function to develop and maintain proficiency.
- Willingness to provide the services of qualified DRE instructors to assist NHTSA in training candidate DREs from other agencies.

c. Legal and Political Prerequisites

To be considered qualified to recommend a law enforcement agency for this training, a state or community must have laws or court-established precedents that:

- specifically allow for the analysis of chemical samples obtained from persons suspected of impaired driving, to determine the presence and/or concentration of drugs other than alcohol;

- allow the arresting officer or law enforcement agency to specify the chemical test or tests (e.g., blood, breath or urine) to be given to suspected impaired drivers;

- specifically facilitate testing for drugs other than alcohol.

In addition, it is desirable that the state or community have laws that:

- make the fact of the driver's refusal to submit to the test or tests admissible in court;

- make it an offense to be under the influence of alcohol and/or illicit drugs, whether or not the person is operating a vehicle.

Furthermore, the state's or community's prosecutors must:

- demonstrate a willingness to introduce Standardized Field Sobriety Test evidence in alcohol/drug cases;

- express a willingness to participate in this training to become familiar with drug evaluation and classification procedures and related information.

The state's or community's judges must:

- demonstrate a willingness to accept and consider Standardized Field Sobriety Test evidence in alcohol/drug cases;

- express a willingness to consider drug evaluation and classification evidence in alcohol/drug cases.
Finally, it is desirable that the jurisdiction's political and community leaders express support for the drug evaluation and classification program.

2. What are the purposes of the course?

The ultimate goal of this course is to help prevent crashes, deaths and injuries by improving enforcement of drug-impaired driving violations. It is not exactly clear how many drug-impaired drivers are on our nation's roads, or how many crashes they cause. But even the most conservative estimates indicate that these drivers kill thousands of Americans, and injure at least tens of thousands of others each year.

3. What will the students get out of this course?

The classroom training course is designed to help the students achieve three broad goals, and eight specific learning objectives.

Goals: The student who successfully completes this phase of DRE training will be able to...

... distinguish if an individual is under the influence of a drug or drugs other than alcohol, or under the combined influence of alcohol and other drugs, or suffering from some injury or illness that produces signs similar to alcohol/drug impairment;

... identify the broad category or categories of drugs inducing the observable signs of impairment; and,

... progress to the Certification Phase of the training.

Objectives: In order to pass this course, the student must be able to...

... describe the involvement of drugs in impaired driving incidents;

... name the seven categories of drugs and recognize their effects;

... describe and properly administer the psychophysical and physiologic evaluations used in the drug evaluation and classification procedures;

... document the results of the drug evaluation and classification examination;

... properly interpret the results of the examination;
... prepare a narrative drug influence report;

... discuss appropriate procedures for testifying in typical drug evaluation and classification cases; and,

... maintain an up-to-date relevant resume.

4. What subject matter does the course cover?

The course focuses primarily on two broad topics:

(1) The examinations, observations, measurements, etc. that constitute the drug evaluation and classification procedures.

(2) The nature, effects, signs and symptoms of each of the seven categories of drugs, and of the combination of categories.

More specifically, the course provides formal presentations on:

- Drugs in Society and in Motor Vehicle Operation.
- Development and Effectiveness of the Drug Evaluation and Classification Program Procedures.
- An Overview of Physiology and Drugs.
- An Overview of the DEC Program Procedures.
- Eye Examinations (Horizontal Gaze Nystagmus; Vertical Gaze Nystagmus; Lack of Convergence; Estimation of Pupil Size; Pupil Reaction to Light).
- Vital Signs Examinations (Pulse Rate; Blood Pressure; Temperature)
- The Physician's Desk Reference, and other reference materials.
- The Seven Categories of Drugs (Central Nervous System Depressants; Central Nervous System Stimulants; Hallucinogens; Dissociative Anesthetics; Narcotic Analgesics; Inhalants; Cannabis).
- Drug Combinations.
- Narrative Arrest Report in Drug Evaluation Cases.
5. What activities take place during the training?

Formal presentations, or lectures, occupy approximately one-half of the course. These presentations cover the content topics outlined earlier. The presentations are supplemented by video tape segments, and by reading material contained in the Student's Manual.

Most of the remainder of the course is devoted to demonstrations and hands-on practice of the drug evaluation and classification procedures. Students repeatedly practice in teams, developing and sharpening their skills in administering eye examinations, vital signs examinations, and other components of the drug recognition expert’s job. Students also participate in several test interpretation practice sessions, in which they review sample drug evaluation and classification reports and identify the category or categories of drugs responsible for the "evidence" described in the reports.

The remaining major activity is testing of the students' knowledge and proficiency. A written knowledge examination is administered, at the end of the course. A formal assessment of each student’s skill in administering the drug evaluation and classification procedures is conducted during the next-to-last session.

6. How long does the training take?

This classroom training course occupies 7 training days. A typical schedule calls for each class day to begin at 8:00 am and conclude at 5:00 pm. A one-hour lunch period and hourly breaks of 10 minutes are accommodated in that schedule.

The course is divided into thirty-two (32) sessions. Of those, two are review sessions, conducted after normal class hours on the fourth and sixth days of the School. No student can progress to the Certification Phase of training until he or she has attended all mandatory sessions. In the event that some emergency causes a student to miss all or a portion of a session, after-hours tutoring must be conducted for that student prior to his or her enrollment in Certification training.
The titles, durations and sequence of the sessions are given below.

Session I
Introduction and Overview (1 hour, 50 minutes)

Session II
Drugs in Society and in Motor Vehicle Operation (50 minutes)

Session III
Development and Effectiveness of the DRE Program (50 minutes)

Session IV
Overview of Drug Recognition Expert Procedures (2 hours, 30 minutes)

Session V
Eye Examinations (1 hour, 45 minutes)

Session VI
Physiology & Drugs: An Overview (2 hours)

Session VII
Examination of Vital Signs (2 hours)

Session VIII
Demonstration of the Evaluation Sequence (1 hour, 20 minutes)

Session IX
Central Nervous System Depressants (1 hour, 45 minutes)

Session X
Central Nervous System Stimulants (1 hour, 45 minutes)

Session XI
Practice: Eye Examinations (1 hour)

Session XII
Alcohol Workshop (1 hour, 45 minutes)

Session XIII
Physician’s Desk Reference and Other Reference Sources (30 minutes)

Session XIV
Hallucinogens (1 hour, 45 minutes)
Session XV
Practice: Test Interpretation (45 minutes)

Session XVI
Dissociative Anesthetics (PCP) (1 hour, 40 minutes)

Session XVII
Narcotic Analgesics (3 hours)

REVIEW SESSION
(Mid-Course Review) (2 hours, 30 minutes)

Session XVIII
Practice: Test Interpretation (45 minutes)

Session XIX
Inhalants (1 hour, 35 minutes)

Session XX
Practice: Vital Signs Examinations (50 minutes)

Session XXI
Cannabis (1 hour, 35 minutes)

Session XXII
Overview of Signs and Symptoms (1 hour)

Session XXIII
C.V. Preparation and Maintenance (50 minutes)

Session XXIV
Drug Combinations (1 hour, 50 minutes)

Session XXV
Practice: Test Interpretation (45 minutes)

Session XXVI
Preparing the Narrative Report (50 minutes)

Session XXVII
Practice: Test Administration (1 hour, 45 minutes)

Session XXVIII
Case Preparation and Testimony (1 hour 30 minutes)
REVIEW SESSION
Review of the DRE School (2 hours, 30 minutes)

Session XXIX
Classifying a Suspect (Role Play) (4 hours)

Session XXX
Transition to the Certification Phase of Training (2 hours, 30 minutes)

NOTE: All sessions of this course are absolutely essential. No short-cuts are permissible.

A model schedule for the seven-day course is given on the next page.

Alternate Schedule #1 combines the Pre-School and Seven-Day School.

Alternate Schedule #2 combines the DWI Detection and Standardized Field Sobriety Testing, Pre-School, and Seven-Day School.

If you use Alternate Schedule #1 or #2, you will need to make copies of those schedules for the students.
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<td>0800-0850 SESSION I: Intro &amp; Overview</td>
<td>0800-0850 SESSION V: (cont)</td>
<td>0800-0850 SESSION IX: CNS Depressants</td>
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<td>0900-1000 SESSION I: (cont)</td>
<td>0900-1005 SESSION VI: Physiology &amp; Drugs (Overview)</td>
<td>0900-1000 SESSION IX: (cont)</td>
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<td>1005-1015 BREAK</td>
<td>1000-1010 BREAK</td>
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<td>1010-1030 Pre-Test</td>
<td>1015-1110 SESSION VI: (cont)</td>
<td>1010-1110 SESSION X: CNS Stimulants</td>
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<td>1110-1120 BREAK</td>
<td>1100-1110 BREAK</td>
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<td>1120-1130 BREAK</td>
<td>1120-1200 SESSION VII: Vital Signs</td>
<td>1110-1200 SESSION X: (cont)</td>
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<td>1230-1330 LUNCH</td>
<td>1300-1400 SESSION VII: (cont)</td>
<td>1300-1400 SESSION XI: Eye Examinations</td>
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<td>1330-1440 SESSION IV: Overview of DEC Procedures</td>
<td>1400-1410 BREAK</td>
<td>1400-1415 BREAK</td>
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<td>1440-1450 BREAK</td>
<td>1410-1430 SESSION VII: (cont)</td>
<td>1415-1700 SESSION XII: Alcohol Workshop</td>
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<td>1450-1550 SESSION IV: (cont)</td>
<td>1430-1515 SESSION VIII: Demo’s of the Evaluation Sequence</td>
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<td>1600-1630 SESSION IV: (cont)</td>
<td>1530-1605 SESSION VIII: (cont)</td>
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<td>1630-1730 SESSION V: Eye Examinations</td>
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# ALTERNATE SCHEDULE #1
## COMBINED PRE-SCHOOL AND 7-DAY SCHOOL

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<tr>
<th>Time</th>
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<th>P - Pre-School</th>
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<tbody>
<tr>
<td>8:00A - 10:00A</td>
<td>Introduction and Overview</td>
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<tr>
<td>10:00A - 11:00A</td>
<td>Drugs and Society</td>
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<td>11:00A - 12:00P</td>
<td>Development and Effectiveness</td>
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<td>12:00P - 1:00P</td>
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<tr>
<td>8:00A - 11:00A</td>
<td>Eye Examinations</td>
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<td>11:00A - 12:00P</td>
<td>Vital Signs</td>
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<td>1:00P - 2:30P</td>
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<td>2:30P - 4:00P</td>
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<tr>
<td>1:00P - 2:30P</td>
<td>Central Nervous System Depressants</td>
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| 2:30P - 5:00P | Alcohol Workshop  
All Instructors | P                      |                | 2.5hrs   |
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<td>1:00P - 2:00P</td>
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<td>2:30P - 5:00P</td>
<td>Review and Pre-School Final Examination</td>
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<td>Hallucinogens</td>
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<td>11:00A - 12:00P</td>
<td>Practice Test Administration</td>
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<td>Lunch</td>
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<td>1:00P - 2:30P</td>
<td>Case Preparation and Testimony</td>
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<td>3:00P - 5:00P</td>
<td>Final Course Review</td>
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<td>8:00A - 11:00A</td>
<td>Final Examination All Instructors</td>
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<td>Classifying a Suspect (Role Play) All Instructors</td>
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<td>Graduation</td>
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# ALTERNATE SCHEDULE #2
## COMBINED DWI DETECTION AND STANDARDIZED FIELD SOBRIETY, PRE-SCHOOL AND 7-DAY SCHOOL

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<td><strong>Block 1 - Introduction and Overview</strong> (merger of DWI Detection and SFST manual session I and the DRE manual session I)</td>
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<td><strong>Block 2 - Definition of drug and overview of the drug categories</strong> (modified Pre-School session I, Introduction and Overview)</td>
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<tr>
<td><strong>Block 3 - Detection and Deterrence</strong> (SFST manual session II)</td>
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<tr>
<td><strong>Block 4 - The Legal Environment</strong> (SFST manual session III)</td>
<td>45min</td>
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<tr>
<td><strong>Block 5 - Overview of Detection, Notetaking and Testimony</strong> (SFST manual session IV)</td>
<td>45min</td>
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<tr>
<td><strong>Block 6 - Phase One: Vehicle in Motion</strong> (SFST manual session V)</td>
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<tr>
<td><strong>Block 7 - Phase Two: Personal Contact</strong> (SFST manual session VI)</td>
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<tr>
<td><strong>Block 8 - Phase Three: Pre-Arrest Screening</strong> (SFST manual session VII)</td>
<td>30min</td>
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<tr>
<td><strong>Block 9 - Concepts and Principles of the SFST</strong> (SFST manual session VIII, segments A (development and validity) and B (types of nystagmus))</td>
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<td><strong>Block 10 - Eye examinations</strong> (Pre-School manual session IV, segments A (purposes of the eye examinations) and B 1, 2 and 3 (procedures and clues for HGN, VGN, and Lack of Convergence))</td>
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<td><strong>Block 11 - Psychophysical Tests</strong> (Pre-School manual session III, segments A and B, Romberg and Walk and Turn)</td>
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<td><strong>Block 12 - Psychophysical Tests</strong> (Pre-School manual session III, segments C and D, One Leg Stand and Finger to Nose)</td>
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<tr>
<td><strong>Block 13 - SFST Battery Demonstrations</strong> (SFST manual session IX, plus Romberg and Finger to Nose, utilizing the DRE order)</td>
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<tr>
<td><strong>Block 14 - SFST Dry Run Practice</strong> (SFST manual session X, plus Romberg and Finger to Nose, in the DRE order)</td>
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<td><strong>Block 15 - Alcohol Correlation Study #1</strong> (merger of SFST manual session XI and Pre-School manual session V)</td>
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<td><strong>Block 16</strong> - <em>Alcohol as a Drug</em> (Pre-School manual session VIII)</td>
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<td><strong>Block 17</strong> - <em>Overview of Signs and Symptoms</em> (Pre-School manual session VII)</td>
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<td><strong>Block 18</strong> - <em>Eye Examinations</em> (Pre-School manual session IV, beginning with B4 (estimation of pupil size) through 5 (reaction to light)).</td>
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<td><strong>Block 19</strong> - <em>Drugs in Society and in Motor Vehicle Operation</em> (DRE manual session II)</td>
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<td><strong>Block 20</strong> - <em>Development and Effectiveness</em> (DRE manual session III)</td>
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<td><strong>Block 21</strong> - <em>Review Session - SFST curriculum</em></td>
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<tr>
<td><strong>Block 22</strong> - <em>SFST Course Final Examination</em> (SFST manual session X)</td>
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<td><strong>Block 23</strong> - <em>Eye Examinations - Practice Session</em> (merger of the practice sessions in DRE manual session XI and Pre-School manual session IV)</td>
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<td><strong>Block 24</strong> - <em>Examination of Vital Signs</em> (merger of Pre-School manual session VI and DRE manual session VII)</td>
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<tr>
<td><strong>Block 25</strong> - <em>Overview of Drug Evaluation and Classification Procedures</em> (merger of Pre-School manual session II and DRE manual session IV)</td>
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<td><strong>Block 26</strong> - <em>Demonstrations of the Evaluation Sequence</em> (DRE manual session VIII)</td>
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<td><strong>Block 28</strong> - <em>Pre-School Final Examination</em> (Pre-School manual session X)</td>
<td>30min</td>
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<tr>
<td><strong>Block 29</strong> - <em>Physiology and Drugs: An Overview</em></td>
<td>4hrs</td>
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<tr>
<td><strong>Block 30</strong> - <em>SFST Report Writing</em> (SFST manual session XIII and SFST practice session)</td>
<td>1hr, 30min</td>
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<tr>
<td><strong>Block 31</strong> - <em>Alcohol Correlation Study #2</em> (merger of Pre-School manual session V and SFST manual session XIV; includes SFST Proficiency Test)</td>
<td>2hrs</td>
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### WEEK TWO

#### DAY SIX

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<tbody>
<tr>
<td><strong>Quiz #1</strong></td>
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<tr>
<td><strong>Block 32</strong> - <em>Physician’s Desk Reference, CPS and Additional Resources</em> (DRE manual session XIII)</td>
</tr>
<tr>
<td><strong>Block 33</strong> - <em>Methods of Administration and Elimination</em> (Note: This is not a current standard manual session, but is an LAPD curriculum addition)</td>
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<tr>
<td><strong>Block 34</strong> - <em>Central Nervous System Depressants</em> (DRE manual session IX)</td>
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<tr>
<td><strong>Block 35</strong> - <em>Central Nervous System Stimulants</em> (DRE manual session X)</td>
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### DAY SEVEN

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<tr>
<td><strong>Quiz #2</strong></td>
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<td><strong>Block 36</strong> - <em>Hallucinogens</em> (DRE manual session XIV)</td>
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<td><strong>Block 37</strong> - <em>Practice: Test Interpretation</em> (DRE manual session XV)</td>
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<tr>
<td><strong>Block 38</strong> - <em>Dissociative Anesthetics</em> - (DRE manual session XVI)</td>
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<tr>
<td><strong>Block 39</strong> - <em>Narcotic Analgesics</em> (DRE manual session XVII, including examination of injection marks)</td>
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### DAY EIGHT

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<td><strong>Quiz #3</strong></td>
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<td><strong>Block 40</strong> - <em>Inhalants</em> (DRE manual session XIX)</td>
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<tr>
<td><strong>Block 41</strong> - <em>Practice: Test Interpretation</em> (DRE manual session XVIII)</td>
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<tr>
<td><strong>Block 42</strong> - <em>Cannabis</em> (DRE manual session XXI)</td>
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<td><strong>Block 43</strong> - <em>C.V. Preparation and Maintenance</em> (DRE manual session XXIII)</td>
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<td><strong>Block 44</strong> - <em>Practice: Vital Signs</em> (DRE session XX)</td>
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<tr>
<td><strong>Block 45</strong> - <em>Alcohol Correlation Study #3</em> (DRE manual session XII)</td>
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### DAY NINE

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<td><strong>Quiz #4</strong></td>
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<td><strong>Block 46</strong> - <em>Overview of Signs and Symptoms</em> (DRE manual session XXII)</td>
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<tr>
<td><strong>Block 47</strong> - <em>Drug Combinations</em> (DRE manual session XXIV)</td>
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<tr>
<td><strong>Block 48</strong> - <em>Practice Session: Eye Examinations</em> (Note: Students practice the pupil size examinations in this segment. There is no standard lesson plan for this segment.)</td>
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# ALTERNATE SCHEDULE #3
## ACCELERATED DRE SCHOOL
### Week One

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<tr>
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<th>Session/Segment</th>
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<tbody>
<tr>
<td>Monday</td>
<td>(1) 1000 to 1200</td>
<td>SFST DRE</td>
<td>Session I</td>
<td><em>Introduction &amp; Overview (SFST Script and Matrix Handouts)</em>; student/instructor introductions</td>
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<tr>
<td></td>
<td>1200 to 1300</td>
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<td><em>SFST &amp; DRE Pre-tests</em></td>
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<td>(2) 1300 to 1400</td>
<td>Pre-School</td>
<td>Session I</td>
<td><em>Introduction</em></td>
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<td>1400 to 1500</td>
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<tr>
<td></td>
<td>(3) 1500 to 1545</td>
<td>SFST</td>
<td>Session II</td>
<td><em>Detection and Deterrence</em></td>
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<td>(4) 1545 to 1630</td>
<td>SFST</td>
<td>Session III</td>
<td><em>The Legal Environment</em></td>
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<td>(5) 1630 to 1730</td>
<td>SFST</td>
<td>Session IV</td>
<td><em>Overview of Detection, Notetaking &amp; Testimony</em></td>
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<td></td>
<td>(6) 1730 to 1815</td>
<td>SFST</td>
<td>Session V</td>
<td><em>Phase One: Vehicle in Motion &amp; Explanation of Divided Attention Impairment</em></td>
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<td></td>
<td>(7) 1815 to 1900</td>
<td>SFST</td>
<td>Session VI</td>
<td><em>Phase Two: Personal Contact</em></td>
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<tr>
<td>Tuesday</td>
<td>(8) 1200 to 1230</td>
<td>SFST</td>
<td>Session VII</td>
<td><em>Phase Three: Pre-Arrest Screening (modified PBT Session)</em></td>
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<tr>
<td></td>
<td>(9) 1230 to 1330</td>
<td>SFST</td>
<td>Session VIII/A, B</td>
<td><em>Concepts and Principles of the SFST (development and types of nystagmus)</em></td>
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<td>(10) 1330 to 1400</td>
<td>Pre-School</td>
<td>Session IV/A &amp; B, 1, 2, &amp; 3</td>
<td><em>Eye Exams (Purpose of Eye examinations, procedures and clues for HGN, VGN and LOC)</em></td>
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<td>(11) 1400 to 1500</td>
<td>Pre-School</td>
<td>Session III/A &amp; B</td>
<td><em>Romberg &amp; Walk and Turn</em></td>
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<td>(12) 1500 to 1600</td>
<td>Pre-School</td>
<td>Session III/C&amp;D</td>
<td><em>One Leg Stand &amp; Finger to Nose</em></td>
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<td>1600 to 1700</td>
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<td>Lunch Break</td>
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<td></td>
<td>(13) 1700 to 1800</td>
<td>SFST</td>
<td>Session IX</td>
<td><em>SFST Test Battery Demonstrations</em> (includes Romberg, Finger to Nose in DRE order)*</td>
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<td></td>
<td>(14) 1800 to 1900</td>
<td>SFST</td>
<td>Session X</td>
<td><em>SFST “Dry Run” Practice</em> (includes Romberg, Finger to Nose, in DRE order)*</td>
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<tr>
<td></td>
<td>(15) 1900 to 2100</td>
<td>SFST Pre-School</td>
<td>Session IX/V</td>
<td><em>Alcohol Correlation Study #1 - coordinator; wrap-up; bartender; log; vitals</em></td>
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<tr>
<td>Wednesday</td>
<td>Time</td>
<td>Session</td>
<td>Topic</td>
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<td>(16) 1000 to 1200</td>
<td>Pre-School</td>
<td>Session VIII</td>
<td>Alcohol as a Drug (Magic Mountain Video alcohol driving study)</td>
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<td>(17) 1200 to 1300</td>
<td>Pre-School</td>
<td>Session VII</td>
<td>Overview of Signs and Symptoms (distribution of blank drug matrix)</td>
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<tr>
<td>(18) 1300 to 1400</td>
<td>Pre-School</td>
<td>Session IV/B4, 5</td>
<td>Eye Exams (pupil size &amp; reaction to light)</td>
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<td>1400 to 1500</td>
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<td>Lunch Break</td>
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<tr>
<td>(19) 1500 to 1600</td>
<td>DRE</td>
<td>Session II</td>
<td>Drugs in Society and Motor Vehicle Operation</td>
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<tr>
<td>(20) 1600 to 1800</td>
<td>DRE</td>
<td>Session III</td>
<td>Development and Effectiveness</td>
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<tr>
<td>(21) 1800 to 1900</td>
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<td>SFST Review Session</td>
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<td>Thursday</td>
<td>Time</td>
<td>Session</td>
<td>Topic</td>
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<td>(22) 1000 to 1030</td>
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<td>Session X</td>
<td>Final Examination</td>
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<td>(23) 1030 to 1100</td>
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<td>Session XI</td>
<td>Eye Exams: Practice Session</td>
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<td>(24) 1100 to 1300</td>
<td>Pre-School</td>
<td>Session IV</td>
<td>Eye Exams: Practice Session</td>
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<td>(25) 1300 to 1400</td>
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<td>Examination of Vital Signs</td>
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<td>1300 to 1500</td>
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<td>Lunch Break</td>
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<tr>
<td>(26) 1500 to 1600</td>
<td>Pre-School</td>
<td>Session II</td>
<td>Overview: Drug Evaluation and Classification Process (LETN &amp; Chevron tapes)</td>
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<td>Session VIII</td>
<td>Demonstrations of the Evaluation Sequence</td>
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<td>(29) 1200 to 1230</td>
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<td>Session VI</td>
<td>Physiology and Drugs: An Overview</td>
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<td>Physiology and Drugs: Physiological Pursuit</td>
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<td>1800 to 1900</td>
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<td>Alcohol Correlation Study #2 &amp; SFST Proficiency Test - coordinator; wrap-up; log; vitals; bartender</td>
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# Week Two

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<td>Physician's Desk Reference &amp; Additional Resources</td>
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<td>Session XIII</td>
<td>Methods of Administration &amp; Elimination</td>
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<td>Session IX</td>
<td>CNS Depressants</td>
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<td>Dissociative Anesthetics</td>
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<td>Session XVII/</td>
<td>Narcotic Analgesics</td>
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<td>(45) 1930 to 2100</td>
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<td>Session XII</td>
<td>Alcohol Correlation Study #3 - coordinator; wrap-up; vitals; bartender; log</td>
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<td>Drug Combinations</td>
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<td>Practice: Eye Exams</td>
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<td>Lunch Break</td>
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<td>Session XXVII</td>
<td>Practice: Test Administration</td>
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<td>(53) 1100 to 1200</td>
<td>DRE</td>
<td>Session XXVI</td>
</tr>
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<td>(54) 1200 to 1300</td>
<td>DRE</td>
<td>Session XXVIII</td>
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<td>1300 to 1400</td>
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<td>Lunch Break</td>
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<tr>
<td>(55) 1400 to 1700</td>
<td>DRE</td>
<td>Session XXIX</td>
</tr>
<tr>
<td>(56) 1700 to 1800</td>
<td>DRE</td>
<td>Session XXX</td>
</tr>
<tr>
<td>(57) 1800 to 1900</td>
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<td>Graduation: Presentation of Certificates and Achievement Awards</td>
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C. **Overview of the Curriculum Package.**

In addition to this Administrator's Guide, the curriculum package for the classroom training program in DEC Program training consists of the following documents and materials:

- Instructor's Lesson Plans Manual
- Audio-Visual Aids
- Student's Manual
- Set of Drug Evaluation Exemplars

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

The Instructor's Lesson Plans Manual is a complete and detailed blueprint of what the course covers and of how it is to be taught. It is organized into thirty-two modules, with each module corresponding to one of the training sessions.

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

The cover page presents the module's (or session's) title and the estimated instructional time required to complete the module.

The outline page lists the specific performance objectives of the module, i.e., the capabilities that the participants will achieve once they have successfully completed the module. The outline page also lists the module's major content segments and the major types of learning activities that are employed during the module.

The lesson plans themselves are arranged in a standard, side-by-side content/instructional notes format. The "content" (left-side) of each page outlines what is to be taught. This content includes:

- facts
- concepts
- procedural steps
- rules and regulations
- etc.

The "Instructional Notes" (right-side) portion of each page specifies how the content is to be taught. That is, it defines how the instructor is to present the material and involve the students in the presentation and ensure that they understand and assimilate the material. Typical entries under the "Instructional Notes" column include:
the approximate amount of time to be devoted to each major content segment

indications of what visual aids are to be used and when they are to be used

questions to be posed to students to involve them actively in the presentation

indications of points requiring special emphasis

guidelines for conducting particular demonstrations to clarify how drug examinations are to be performed

specifications of group exercises and other methods of involving students more actively in the lesson

The Instructor's Lesson Plans Manual serves, first, as a means of preparing the instructor to teach the course. He or she should review the entire set of lesson plans and become familiar with the content and develop a clear understanding of how the course "fits together". He or she is also expected to become thoroughly familiar with each module that he or she is assigned to teach, to prepare acetate copies of the visual aids, to assemble all "props" and other instructional equipment referenced in the lesson plans, and to augment the "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 text of a speech. Although its outlines of content information are fairly well detailed and comprehensive, those outlines are not to be read verbatim to the participants. This training program is intended to be a dynamic, highly interactive learning experience in which the students are active participants. It should not be permitted to degenerate into a series of mere lectures.
2. Audio-Visual Aids

Five types of audio-visuals are used in this course:

- wall charts
- dry-erase board/flip-chart presentations
- "visuals" (overhead transparencies/PowerPoint)
- 35mm photographic slides
- videos

The wall charts are permanently-displayed items. They consist of sketches with brief captions, intended to depict major themes and segments of the training. The wall charts should 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.

Standard-sized paper copies of the suggested wall charts are included in the Instructor's Lesson Plans Manual. The copies 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 wall charts themselves.

Wall charts should be placed high on the far left and right sides of the classroom's front wall, or on the side walls, where they will be visible without distracting from the screen or dry-erase board.

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

The "visuals" (overhead transparencies/PowerPoint slides) are simple displays of graphic and/or narrative material that emphasize key points and support the instructor's presentation. Paper copies of those "visuals" are found in various modules of the Instructor's Lesson Plans Manual. Those paper copies must be photocopied onto acetate to produce the overhead transparencies. Each "visual" is numbered to indicate the session to which it belongs and its sequence within that session. For example, Visual VII-3 would be the third overhead transparency used in Session VII.
The videos consist of a number of segments that demonstrate the drug evaluation and classification procedures, and that exhibit the kinds of evidence associated with various categories of drugs. Some of these segments feature persons who are actually under the influence of various drugs and who have been arrested for offenses relating to their drug impairment.


The Student's Manual is the basic textbook and study source for the course. It provides a session-by-session summary of the subject matter, and a list of study topics to help the students assimilate the material.

During the course, the Student's Manual will be primarily useful for previewing the sessions, and for studying the subject matter in preparation for the final knowledge and proficiency examinations. After the classroom training is completed, the student will find that the manual is a useful reference document, especially during the Certification Phase of training.

Students are expected to be familiar with all of the contents of their Student Manual. Instructors must encourage the students to study the manual carefully as they progress through the school. Note: Students are expected to be able to answer the "topics for study" review questions that appear at the end of various sections of their Student Manual.

4. Set of Drug Evaluation Exemplars

The exemplars are the documented results of simulated drug evaluation and classification examinations. A standardized reporting form is used for the exemplars. This is the same form that the students use as a test recording instrument when they practice administering and documenting the drug evaluation and classification examination.

The exemplars support learning activities that take place during eleven sessions:

o Sessions IX, X, XIV, XVI, XVII, XIX, and XXI cover the seven individual drug categories. Several exemplars have been prepared for each session, to illustrate the kinds of clues that can be expected when the examination is conducted for a person under the influence of that category. For example, the exemplars designed for Session IX illustrate the results of typical examinations of suspects under the influence of CNS depressants.
These exemplars will be found in the Instructor's and Student's Manual.

o Session XV, XVIII and XXV are "Test Interpretation Practice" sessions. Students work in small groups, reviewing exemplars and determining, from the documented "evidence" they contain, what category or categories of drugs are present in each case. These exemplars also will be found in the Student's Manual.

o Session XXIX is the "role play" practice session. Instructors serve as "test subjects". Students work in small groups, administering the entire drug evaluation and classification examination to each instructor. Each instructor uses an exemplar to inform the students as to what data they should record at each stage of the examination. For example, as part of the examination, the students will actually measure an instructor's blood pressure. The instructor will observe the students' technique and offer constructive criticism. The instructor will inquire as to the pressure readings that the students obtain. But, the instructor will tell the students to record the blood pressure readings documented on his or her assigned exemplar. Subsequently, the students must review their completed exemplars and determine what category or categories of drugs the instructor was "simulating". These exemplars are found at the end of the lesson plans for Session XXIX.

D. General Administrative Requirements

1. Facility Requirements

Several types of facilities are needed to support this training. First, a standard classroom is required. This should provide comfortable seating and adequate desk/table space for each student, and should be equipped with a large screen, projectors, dry-erase boards and/or flip-charts and video players and monitors. All visuals should be readily and fully visible from all seating locations. The classroom should also provide adequate unobstructed space to allow the instructors to demonstrate examination procedures. A "U"-shaped seating arrangement is preferable for the classroom.

A large, open area also is needed to support the hands-on practice sessions. A gymnasium or similar facility will serve this need very well. Ideally, it should be possible to control the lighting in this practice facility to the point of total darkness, to demonstrate and practice key elements of the drug evaluation and classification procedures that take place in a darkroom.
A separate room must be available, ideally adjacent to the gymnasium or practice facility. This room will serve as the "staging area" for the volunteer drinkers who will participate in the alcohol workshop (Session XII).

Another separate room must be provided to serve as the instructors' "office", i.e., the place where they can prepare for their teaching assignments, store materials, etc.

2. Special Instructional Equipment and Personnel.

For the alcohol workshop, volunteer drinkers must be available. The volunteer drinkers cannot be members of the class. There should be one volunteer for every three or four students. For example, if there are 25 students in the class, there should be 7-9 volunteer drinkers. Sufficient alcohol, mixers, cups, napkins, ice, etc. must be provided. Adequate breath testing devices must be available to provide for monitoring volunteers' blood alcohol concentrations. At least three people must be assigned to monitor and escort the volunteers; ideally, each volunteer should have his or her own monitor.

Note: Every volunteer must read and sign the "Statement of Informed Consent" prior to receiving any alcohol. Any person who refuses to sign the Statement cannot serve as a volunteer drinker.

For the hands-on practice sessions involving eye examinations, at least one pupillometer and one onset angle template should be provided for every two students. Ideally, each student should have his or her own pupillometer and template. The pupillometer should be capable of measuring pupil diameters across the range from 1.0 mm to 9.0 mm, in one-half millimeter increments. The template should display angles between 30 and 50 degrees, in 5 degree increments.

For the hands-on practice sessions involving vital signs examinations, a sphygmomanometer and stethoscope must be provided for every three students. Ideally, each student should have his or her own. Also, it is desirable that several training stethoscopes be available. These are stethoscopes that have two sets of earpieces, and allow an instructor to monitor exactly what the student is hearing.

Each student should be provided with a penlight suitable for conducting the various eye examinations.

At the beginning of DRE training, it is essential that every student have his or her own full complement of DRE equipment. In addition, every student must have access to a PDR, and ideally should own a PDR.
3. Instructor Qualifications.

The principal instructors for this course must be IACP-certified Drug Recognition Expert Instructors. That means that they (1) hold currently-valid certificates as DREs; (2) have completed the NHTSA DRE Instructor Training Course; and, (3) have completed the required delivery of both classroom and certification training, under the supervision of teacher-trainers. Only a certified DRE instructor can credibly teach:

- Session IV (Overview of Drug Evaluation and Classification Procedures)
- Session V (Eye Examinations)
- Session VIII (Demonstrations of the Evaluation Sequence)
- The segment entitled "Expected Results of the Evaluation" in Sessions IX, X, XIV, XVI, XVII, XIX XXI and XXIV (The sessions covering individual drug categories and combinations of categories)
- The hands-on practice sessions (Sessions XI, XX, XVIII and XXIX)
- The Test Interpretation Practice Sessions (Sessions XV, XVII and XXV)
- Session XXVI (Narrative Drug Report)
- Session XXIII (C.V. Preparation and Maintenance)

The above-listed sessions and segments constitute approximately 75% of the course.

A qualified DRE could instruct the remaining 25% of the course, as well. However, some agencies may wish to enlist instructors with special credentials for certain blocks of instruction. For example, a physician would be well qualified to teach Session VII (Examination of Vital Signs), and a prosecutor might be a good choice as the instructor for Session XXVIII (Case Preparation and Testimony), and for Session XXVI (Preparing the Narrative Report).
In addition to their occupational competencies, all instructors must be qualified teachers. They need to understand, and be able to apply, fundamental principles of instruction. Perhaps most importantly, they need to be competent coaches. Much of this classroom training is devoted to hands-on practice. The quality of coaching will have a major impact on the success of those practice sessions. It is highly recommended that every instructor be a graduate of the NHTSA DRE Instructor Training School.

For the hands-on practice sessions, there should be at least one instructor for every three students, to permit adequate monitoring and coaching.

4. Class Size Considerations.

The recommended maximum class size for this course is 25 students. Larger classes make it difficult to devote sufficient attention to each student to ensure that he or she develops examination skills to a level sufficient to progress to the Certification Phase. The preferred class size is 15-20 students.

E. Course Planning and Preparation Requirements

The fundamental preparatory step for any law enforcement agency desiring this training is to ensure that the agency and its community or state satisfy the prerequisites outlined in Section B, part 1 of this Administrator's Guide.

The next step is to select a cadre of appropriate candidate DREs. Make sure that each candidate satisfies the student prerequisites outlined in Section B.

The third step is to provide preliminary training to the candidate DREs. The National Highway Traffic Safety Administration (NHTSA) has developed a curriculum to support preliminary training for potential DREs. This training enables the candidates to become familiar with, and to start to develop skills in, the vital signs examinations and other elements of the drug evaluation and classification procedures.

The next step will be to schedule the class. States with well-established DEC Programs, including a cadre of experienced DRE instructors, are expected to plan and manage their own DRE Schools. However, they can receive the services of additional (in-State and out-of-State) instructors, at NHTSA's expense. And of course, NHTSA supplies Student Manuals and other standard instructional materials at no charge. For States whose DEC Programs are new or developing, NHTSA assists with the planning and management of the Schools, and supplies most or all instructors.
In general, this classroom training course is conducted at facilities operated by the delivery agency or at other suitable locations. Departments are responsible for all costs associated with transporting their personnel to and from the training site, and for their lodging and subsistence during the training.

F. Examinations of Students' Knowledge and Proficiency

It is very important to test the students' knowledge and skill development. Testing in this course is conducted for two principle reasons: (1) to assess students' progress, and identify deficiencies that need correction; and, (2) as a learning activity for the students. Knowledge testing starts in the very first session of the course, when a PRE-Test is given. After the students have finished the PRE-Test, you will give them a new, blank copy of the test, so that they can use it as a study guide throughout the course. Five formal quizzes also will be given. The first of these is given at the start of the third day of the school. The second quiz is given at the start of the fifth day, and the third quiz at the start of the sixth day. The fourth quiz is given at the end of the sixth day. The fifth quiz is given during the Optional Review Session that occurs during the evening of the sixth day. In addition, a self-study quiz is provided in the Student's Manual.

The most important knowledge test, of course, is the Final Examination. It is given on the afternoon of the final day of the School. The student must achieve a grade of at least 80% in order to progress to certification training. If a student fails the examination, the National minimum Standards permit one additional attempt. The additional attempt must be based on an examination approved for that purpose by NHTSA and IACP, and cannot occur earlier than two weeks, nor later than four weeks, following completion of the DRE School.

A skill examination also occurs during the next-to-last session of the DRE School. That is the session in which the students will examine instructors who are "playing the roles" of drug-impaired person. A Proficiency Examination Checklist (found in Session XXX of this Manual) is used to evaluate the students' performance.

G. Follow-Up Requirements

Upon completion of the classroom training, students will commence the Certification Phase, i.e., the application of drug evaluation and classification procedures in an actual enforcement context. During certification training, the students are supervised by certified DRE instructors. Under the national minimum standards for certification established by the International Association of Chiefs of Police (IACP), each student must participate in conducting at least 12 drug examinations, at least six of which he or she must personally administer.
The student must also identify at least three of the seven drug categories in his or her examinations. And, toxicologic specimens must be submitted from at least nine of the examined subjects, and analysis of those specimens must corroborate the student's opinion for at least 75% of the specimens submitted. Most importantly, the numbers and percentages cited here are minimum requirements: no student can be certified as a DRE until two instructors attest that he or she qualifies for certification.

The training delivery agency will compile the information needed to support an assessment of the classroom training each time it is conducted. This assessment will be based primarily on the (anonymous) Student's Critique Form, which appears in Session XXX of the Instructor's Lesson Plans Manual. Guidelines for preparing a post-course evaluation report based on the Student's Critique Form are covered in Section H.

H. 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. Ability to Identify Drug Categories
G. Overall Quality of the Course
H. Quality of Instruction
I. 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 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 - Ability to Identify Drug Categories

Total the numerical ratings, and divide by the number of responding participants. That gives the average rating for the section, on the scale from 1 ("very confident") to 3 ("not confident"). Comment as appropriate.

Section G - 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 ("poor") to 5 ("excellent"). Comment as appropriate.

Section H - Quality of Instruction

For each instructor, tabulate his or her numerical ratings, and divide by the number of responding participants. Comment as appropriate.

Section I - 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 Region Office as they are completed. These reports will be used to assist in determining what revisions are needed to the course curriculum in the future when periodic course reviews are conducted by the NHTSA.

I. Requests for Information, Assistance or Materials

Departments interested in this program should contact their state's Office of Highway Safety. Formal requests for this training should come from the State Highway Safety Office, and should be directed to the cognizant NHTSA Regional Office.
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</table>
Two Hours and Thirty Minutes

MID-COURSE REVIEW
MID-COURSE REVIEW

This is an after-normal-class-hours session that students are free to attend or not, but are encouraged to attend. Its principal purpose is to help solidify the knowledge and skills they have begun to acquire, from the Pre-School and from the first four days of the DRE School.

This session must be conducted in a highly interactive fashion. Don't simply present information or conduct demonstrations. Make the students do it. Ask questions, and call upon students to conduct the demonstrations that are required. Try to involve everybody, and convey your gratitude for the fact that they have attended the session.

<table>
<thead>
<tr>
<th>Content Segments</th>
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<tbody>
<tr>
<td>A. Drugs, Drug Categories and the Drug Influence Evaluation</td>
<td>o Instructor/Student Dialogues</td>
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<tr>
<td>B. Eyes and Vital Signs</td>
<td>o Student-Led Demonstrations</td>
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<tr>
<td>C. Physiology</td>
<td></td>
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<tr>
<td>D. Questions and Answers</td>
<td></td>
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</tbody>
</table>
MID-COURSE REVIEW

A. Drugs, Drug Categories and the Drug Influence Evaluation

1. Define the word "drug". Any substance, which when taken into the human body, can impair the ability of the person to operate a vehicle safely.

2. Name the seven categories. CNS Depressants, CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Narcotic Analgesics, Inhalants and Cannabis.

   a. Name the six sub-categories of Depressants. Barbiturates, Non-Barbiturates, Anti-Anxiety Tranquilizers, Anti-Depressants, Anti-Psychotic Tranquilizers, & Combinations of the first five.

   b. Name three sub-categories of CNS Stimulants. Cocaine, the Amphetamines, and "Others".

   c. Name two sub-categories of Narcotic Analgesic. Opiates and Synthetics.

3. Identify the category for each of the listed drugs.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Xanax</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>b. Desoxyn</td>
<td>CNS Stimulant</td>
<td></td>
</tr>
<tr>
<td>c. Secobarbital</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>d. Dilaudid</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>e. Alprazolam</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>f. Phenyl Cyclohexyl Peperidine</td>
<td>Dissociative Anesthetics</td>
<td></td>
</tr>
<tr>
<td>g. &quot;Ecstasy&quot;</td>
<td>Hallucinogen</td>
<td></td>
</tr>
<tr>
<td>h. ETOH</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>i. Numorphan</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>j. Psilocybin</td>
<td>Hallucinogen</td>
<td></td>
</tr>
</tbody>
</table>

4. List the twelve components of the Drug Influence Evaluation in the proper sequence.

   a. Demonstrate the Preliminary Examination.
   b. Demonstrate the Eye Examinations.
   c. Demonstrate the Administration of the Divided Attention Tests.

   Allow student-demonstrations to refer to the standard Drug Influence Evaluation Form.

   Be sure to provide appropriate positive feedback and constructive criticism of the demonstrators' performances.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Demonstrate the Vital Signs Examinations.</td>
<td></td>
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<tr>
<td>e. Demonstrate the Darkroom Examinations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Demonstrate the Check for Muscle Tone and the inspection for Injection Sites.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Identify the category for each of the listed drugs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Demerol</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>b. Cylert</td>
<td>CNS Stimulant</td>
<td></td>
</tr>
<tr>
<td>c. Chlordiazepoxide</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>d. Ketamine</td>
<td>Dissociative Anesthetics</td>
<td></td>
</tr>
<tr>
<td>e. Percodan</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>f. Ritalin</td>
<td>CNS Stimulant</td>
<td></td>
</tr>
<tr>
<td>g. Isopropanol</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>h. Bufotenine</td>
<td>Hallucinogen</td>
<td></td>
</tr>
<tr>
<td>i. Thebaine</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>j. Methaqualone</td>
<td>CNS Depressant</td>
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</tbody>
</table>
### Aids Lesson Plan

#### B. Eyes and Vital Signs

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>50 Minutes</td>
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<tr>
<td>MCR-4 (Eyes and Vital...)</td>
<td></td>
</tr>
</tbody>
</table>

#### 1. Name the three clues of Horizontal Gaze Nystagmus.

- a. Demonstrate the check for "Lack of smooth pursuit".
- b. Demonstrate the check for "Distinct and sustained nystagmus at maximum deviation".
- c. Demonstrate the check for "Angle of Onset".

Lack of smooth pursuit; distinct and sustained nystagmus at maximum deviation; angle of onset.

Ask the student-demonstrator:
- How long should the eye be held at maximum deviation? (About four seconds)
- What is the formula that expresses the approximate relationships between BAC and Angle of Onset? (BAC = 50 - Angle)

#### 2. Name the categories of drugs that will cause Horizontal Gaze Nystagmus.

- a. Name the categories that will cause **Vertical** Gaze Nystagmus.
- b. Demonstrate the check for Vertical Gaze Nystagmus.

CNS Depressants, Phencyclidine, Inhalants.

Same as above.

Ask the student-demonstrator:
- How long should the eyes be held at maximum elevation? (About four seconds)
3. Name the test that is always administered immediately after Vertical Gaze Nystagmus.
   a. Demonstrate the test for Lack of Convergence.
   b. Name the categories of drugs that usually will cause Lack of Convergence. 
      CNS Depressants; Dissociative Anesthetics (PCP); Inhalants; Cannabis.

4. Name the lighting conditions under which we make estimations of pupil size.
   a. Demonstrate the room light pupil size estimation procedure.
   b. Demonstrate the near-total darkness procedure.
   c. Demonstrate the direct light procedure.
      Ask the student-demonstrator: How large should the circle of light appear on the subject’s face for the direct-light check? (Approximately the same as the eye socket)
      Ask the student-demonstrator: How long should the light be shined directly into the subject’s eye? (Fifteen seconds)
      Pupil reaction to light; hippus; rebound dilation.
   d. Name the other things a DRE looks for while shining the light directly into the subject’s eye.
   e. How quickly must the pupil start to constrict if it is considered to exhibit normal reaction to light?
      Within one second.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>f. Define Hippus.</td>
<td>A rhythmic pulsating of the pupils of the eyes, as they dilate and constrict within fixed limits.</td>
<td></td>
</tr>
<tr>
<td>g. Define Rebound Dilation.</td>
<td>Rebound dilation is a period of constriction followed by dilation with a change equal to or greater than 2 mm.</td>
<td></td>
</tr>
<tr>
<td>5. State the normal ranges of pupil size for the three lighting conditions.</td>
<td>Room Light: 2.5 - 5.0 mm Near Total Darkness: 5.0 - 8.5 mm Direct Light: 2.0 - 4.5 mm</td>
<td></td>
</tr>
<tr>
<td>a. Define each of the listed terms.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Miosis</td>
<td>Abnormally constricted pupils</td>
<td></td>
</tr>
<tr>
<td>o Mydriasis</td>
<td>Abnormally dilated pupils</td>
<td></td>
</tr>
<tr>
<td>o Ptosis</td>
<td>Droopy eyelids</td>
<td></td>
</tr>
<tr>
<td>b. What kinds of drugs will cause dilation of the pupils?</td>
<td>CNS Stimulants; Hallucinogens; Cannabis (although sometimes only slight dilation, if any).</td>
<td></td>
</tr>
<tr>
<td>c. What kinds of drugs will cause constriction?</td>
<td>Narcotic Analgesics.</td>
<td></td>
</tr>
<tr>
<td>MCR-5 (What do these...)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCR-6 (More drugs...)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Identify the category for each of the listed drugs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Oxycodone</td>
<td>Narcotic Analgesic</td>
<td></td>
</tr>
<tr>
<td>b. Halcion</td>
<td>CNS Depressant</td>
<td></td>
</tr>
<tr>
<td>c. Librium</td>
<td>CNS Depressant</td>
<td></td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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</tr>
<tr>
<td>d. Peyote</td>
<td></td>
<td>Hallucinogen</td>
</tr>
<tr>
<td>e. Darvon</td>
<td></td>
<td>Narcotic Analgesic</td>
</tr>
<tr>
<td>f. Preludin</td>
<td></td>
<td>CNS Stimulant</td>
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<tr>
<td>g. Diazepam</td>
<td></td>
<td>CNS Depressant</td>
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<tr>
<td>h. Dexedrine</td>
<td></td>
<td>CNS Stimulant</td>
</tr>
<tr>
<td>i. Hycodan</td>
<td></td>
<td>Narcotic Analgesic</td>
</tr>
<tr>
<td>j. Xanax</td>
<td></td>
<td>CNS Depressant</td>
</tr>
<tr>
<td>7. Define &quot;Pulse&quot;.</td>
<td></td>
<td>The expansion and relaxation of an artery, generated by the pumping action of the heart. (Also acceptable: The expansion and relaxation of an artery, caused by the surging flow of blood.)</td>
</tr>
<tr>
<td>a. Define &quot;Pulse Rate&quot;.</td>
<td></td>
<td>The number of pulsations in an artery per minute.</td>
</tr>
<tr>
<td>b. Define &quot;Artery&quot;.</td>
<td></td>
<td>A strong, elastic blood vessel that carries blood from the heart to the body tissues.</td>
</tr>
<tr>
<td>c. Define &quot;Vein&quot;.</td>
<td></td>
<td>A blood vessel that carries blood back to the heart from the body tissues.</td>
</tr>
<tr>
<td>d. Identify the location of each listed pulse point.</td>
<td></td>
<td>In the wrist, at the base of the thumb.</td>
</tr>
<tr>
<td>o Radial</td>
<td></td>
<td>In the crook of the arm.</td>
</tr>
<tr>
<td>o Brachial</td>
<td></td>
<td>In the neck, on either side of the Adam's Apple</td>
</tr>
<tr>
<td>o Carotid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>e. Demonstrate a pulse measurement, using the left Radial pulse point.</td>
<td></td>
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<tr>
<td></td>
<td>f. State the normal range of adult human pulse rate.</td>
<td>60 to 90 beats per minute.</td>
</tr>
<tr>
<td></td>
<td>g. Name the drug categories that usually cause elevated pulse rate.</td>
<td>CNS Stimulants; Hallucinogens; Dissociative Anesthetics; Inhalants; Cannabis.</td>
</tr>
<tr>
<td></td>
<td>h. Name the drug categories that usually cause lowered pulse rate.</td>
<td>CNS Depressants; Narcotic Analgesics.</td>
</tr>
<tr>
<td></td>
<td>8. Define &quot;Blood Pressure&quot;.</td>
<td>The force exerted by blood on the walls of the arteries.</td>
</tr>
<tr>
<td></td>
<td>a. How often does a person's blood pressure change?</td>
<td>It is always changing, from instant to instant.</td>
</tr>
<tr>
<td></td>
<td>b. When does the blood pressure reach its highest value?</td>
<td>When the heart is fully contracted, and blood is sent rushing into the arteries.</td>
</tr>
<tr>
<td></td>
<td>c. When does the blood pressure reach its lowest value?</td>
<td>When the heart is fully expanded, just before it starts to contract for the next &quot;pumping&quot; action.</td>
</tr>
<tr>
<td></td>
<td>d. Name the two medical instruments that are used to measure blood pressure.</td>
<td>Select a student to come to the dry erase board or flip-chart and print &quot;SPHYGMOMANOMETER&quot; and &quot;STETHOSCOPE&quot;.</td>
</tr>
<tr>
<td></td>
<td>e. Name the sounds that we hear through the stethoscope when we make a blood pressure measurement.</td>
<td>Select a student to come to the dry erase board or flip-chart and print &quot;KOROTKOFF SOUNDS&quot;.</td>
</tr>
<tr>
<td></td>
<td>f. What does this &quot;Hg&quot; mean?</td>
<td>Instructor: Print &quot;Hg&quot; on the dry erase board or flip-chart.</td>
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</tbody>
</table>
### Aids

<table>
<thead>
<tr>
<th>Lesson Plan</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Chemical symbol for the element Mercury; abbreviation for the Latin word <em>Hydrargyrum</em>, meaning &quot;Mercury&quot;.</td>
</tr>
<tr>
<td>g. In what units is blood pressure measured?</td>
<td>Millimeters of Mercury. Instructor: Print &quot;mm&quot; on the dry erase board or flip-chart, right in front of the &quot;Hg&quot;.</td>
</tr>
<tr>
<td>h. Suppose that, at some particular instant, a person has a blood pressure of 120 mmHg. What does that &quot;120 mmHg&quot; mean?</td>
<td>It means the pressure would be strong enough to push a column of liquid Mercury up a glass tube to a height of 120 millimeters. Instructor: If one is available, display a Sphygmomanometer that has a liquid mercury pressure gauge.</td>
</tr>
<tr>
<td>i. Name the types of drugs that usually cause a lowered blood pressure.</td>
<td>CNS Depressants; Narcotic Analgesics; and, the Anesthetic Gases sub-category of Inhalants.</td>
</tr>
<tr>
<td>j. Name the types of drugs that elevate blood pressure.</td>
<td>CNS Stimulants; Hallucinogens; Dissociative Anesthetics; Cannabis; and the other two sub-categories (Volatile Solvents and Aerosols) of Inhalants.</td>
</tr>
<tr>
<td>k. State the meaning of each of the listed terms.</td>
<td>The highest value of blood pressure. The lowest value of blood pressure.</td>
</tr>
<tr>
<td>o Systolic</td>
<td></td>
</tr>
<tr>
<td>o Diastolic</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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</tr>
<tr>
<td></td>
<td>o Bradycardia</td>
</tr>
<tr>
<td></td>
<td>o Tachycardia</td>
</tr>
<tr>
<td></td>
<td>o Hypertension</td>
</tr>
<tr>
<td></td>
<td>o Hypotension</td>
</tr>
<tr>
<td></td>
<td>l. State the normal range of systolic blood pressure.</td>
</tr>
<tr>
<td></td>
<td>m. State the normal range of diastolic blood pressure.</td>
</tr>
<tr>
<td></td>
<td>n. Demonstrate the measurement of blood pressure.</td>
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</tbody>
</table>

C. Physiology

20 Minutes

MCR-9
(Physiology...)

1. Define "Physiology". The study of the functions of living organisms and their part.

2. What is the expression we use to remember the names of the ten major body systems? Select a student to come to the dry erase board or flip-chart, and print "MURDERS INC" vertically.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. What is M for?</td>
<td>Muscular (Have a student print out each name).</td>
</tr>
<tr>
<td></td>
<td>b. What is U for?</td>
<td>Urinary</td>
</tr>
<tr>
<td></td>
<td>c. What is the first R for?</td>
<td>Respiratory (or, Reproductive)</td>
</tr>
<tr>
<td></td>
<td>d. What is D for?</td>
<td>Digestive</td>
</tr>
<tr>
<td></td>
<td>e. What is E for?</td>
<td>Endocrine</td>
</tr>
<tr>
<td></td>
<td>f. What is the second R for?</td>
<td>Reproductive (or, Respiratory)</td>
</tr>
<tr>
<td></td>
<td>g. What is S for?</td>
<td>Skeletal</td>
</tr>
<tr>
<td></td>
<td>h. What is I for?</td>
<td>Integumentary</td>
</tr>
<tr>
<td></td>
<td>i. What is N for?</td>
<td>Nervous</td>
</tr>
<tr>
<td></td>
<td>j. What is C for?</td>
<td>Circulatory</td>
</tr>
</tbody>
</table>

3. State the word that means "dynamic balance involving levels of salts, water, sugars and other materials in the body's fluids".

4. Which artery carries blood from the heart to the lungs?

   a. What is unique about the Pulmonary artery, compared to all other arteries?

      (1) it is the only artery that takes blood from the right side of the heart;
      (2) it is the only artery that carries deoxygenated blood (i.e., blood that is depleted of oxygen).

   b. What are the Pulmonary veins?

      The veins that carry blood back to the heart from the lungs.

   c. What is unique about the Pulmonary veins?

      (1) they are the only veins that bring blood to the left side of
<table>
<thead>
<tr>
<th>Aids</th>
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<tbody>
<tr>
<td></td>
<td>the heart; (2) they are the only veins that carry oxygenated blood.</td>
<td></td>
</tr>
<tr>
<td>MCR-10 Classification of nerves)</td>
<td>5. Name the various types of nerves.</td>
<td>Ask students to &quot;fill in&quot; the missing names.</td>
</tr>
<tr>
<td></td>
<td>a. Sensory Nerves, carry messages to the brain.</td>
<td>Also known as Afferent Nerves.</td>
</tr>
<tr>
<td></td>
<td>b. Motor Nerves, carry messages from the brain.</td>
<td>Also known as Efferent Nerves.</td>
</tr>
<tr>
<td></td>
<td>c. Voluntary Nerves are motor nerves that carry messages to the muscles that we consciously control.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Autonomic Nerves are motor nerves that carry messages to the muscles and organs we do not consciously control.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Sympathetic Nerves are autonomic nerves that carry messages commanding the body to react to fear, stress, excitement, etc.</td>
<td>Clarification: Sympathetic nerves carry the brain's &quot;fire alarms&quot; and &quot;wake up calls&quot;.</td>
</tr>
<tr>
<td></td>
<td>f. Parasympathetic Nerves are autonomic nerves that carry messages to produce relaxed and tranquil activities.</td>
<td>Clarification: Para-sympathetic nerves carry the brain's &quot;all clear&quot; and &quot;at ease&quot; messages.</td>
</tr>
<tr>
<td>MCR-11 (Some more technical...)</td>
<td>6. Define each of the listed terms.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Neuron</td>
<td>A nerve cell; the basic &quot;building block&quot; of a nerve.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>-----------------------------------------------------------</td>
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<tr>
<td>b. Synapse</td>
<td></td>
<td>The gap or space between two nerve cells.</td>
</tr>
<tr>
<td>c. Neurotransmitter</td>
<td></td>
<td>A chemical that flows across the synapse, to carry a message from one neuron to the next.</td>
</tr>
<tr>
<td>d. Axon</td>
<td></td>
<td>The end of a neuron that sends out the neurotransmitter.</td>
</tr>
<tr>
<td>e. Dendrite</td>
<td></td>
<td>The end of a neuron that receives the neurotransmitter.</td>
</tr>
<tr>
<td>D. Questions and Answers</td>
<td></td>
<td>Segment D: As long as necessary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solicit and answer students' questions about anything covered thus far in their training.</td>
</tr>
</tbody>
</table>
Mid-Course Review
Review of Drugs, Drug Categories, and the Drug Influence Evaluation

Name the Drug Category for:
- Xanax
- Desoxyn
- Secobarbital
- Dilaudid
- Alprazolam
- Phenyl Cyclohexyl Piperidine
- "Ecstasy"
- ETOH
- Numorphan
- Psilocybin

Name the Drug Category for:
- Demerol
- Cylert
- Chlordiazepoxide
- Ketamine
- Percodan
- Ritalin
- Isopropanol
- Bufotenine
- Thebaine
- Methaqualone

Eyes and Vital Signs Review

What Do These Words Mean?
- Miosis
- Mydriasis
- Ptosis

More Drugs to Categorize
- Oxycodone
- Halcion
- Librium
- Peyote
- Darvon
- Preludin
- Diazepam
- Dextroamphetamine
- Hydromorphone
- Xanax
Where Are These Pulse Points Located?
- Radial
- Brachial
- Carotid

Pulse Point Location Answers
- Radial
- Brachial
- Carotid

Some Technical Terms to Define
- Systolic
- Diastolic
- Bradycardia
- Tachycardia
- Hypertension
- Hypotension

Physiology Review

Classification of Nerves

Some More Technical Terms to Define
- Neuron
- Synapse
- Neurotransmitter
- Axon
- Dendrite
Two Hours and Thirty Minutes

REVIEW OF THE DRE SCHOOL
REVIEW SESSION

The principal purpose of the Review Session is to help students prepare for the final written examination. The following questions and exercises can be posed to the class to cover all of the information that will be elicited on the final exam. Try to involve all of the students actively in these questions and exercises.

Remind the students that they have a thirty-three question self test with answers in their participant manuals.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REVIEW OF THE DRE SCHOOL</td>
<td>Display Session Title Slide</td>
</tr>
<tr>
<td>RS-1</td>
<td>1. HOW DO WE DEFINE THE TERM &quot;DRUG&quot; FOR DRE PURPOSES?</td>
<td>Key Points to Emphasize:</td>
</tr>
<tr>
<td></td>
<td>o any substance</td>
<td>o that impairs the ability to operate a vehicle</td>
</tr>
<tr>
<td>RS-2</td>
<td>2. BASIC DRUG STATISTICS:</td>
<td></td>
</tr>
<tr>
<td>RS-3</td>
<td>a. What drug other than alcohol was found most frequently in the Los Angeles Field Validation Study?</td>
<td>Answer: PCP</td>
</tr>
<tr>
<td></td>
<td>b. What does &quot;polydrug use&quot; mean?</td>
<td>Ingesting drugs from two or more drug categories</td>
</tr>
<tr>
<td></td>
<td>c. How common was polydrug use in the field validation study?</td>
<td>72% of the suspects had two or more drug categories in them.</td>
</tr>
<tr>
<td></td>
<td>d. How good were the DREs in the Field Validation Study?</td>
<td></td>
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<tr>
<td>RS-4</td>
<td>o Over 80% of the time when the DREs said a particular category of drugs was present, that category was found in the suspect’s blood.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o In more than 90% of the suspects, the DREs correctly identified at least one of the categories that were present.</td>
<td></td>
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</tbody>
</table>
f. In the University of Tennessee Study, what percentage of injured drivers had drugs other than alcohol in them?

40% of those drivers had evidence of other drugs in their urine.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>HGN</th>
<th>VGN</th>
<th>CONV</th>
<th>PULSE</th>
<th>BP</th>
<th>TEMP</th>
<th>PUPILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACT</td>
<td></td>
<td></td>
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<tr>
<td>CNS DEP</td>
<td></td>
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<tr>
<td>CNS STIM</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HALLUCS</td>
<td></td>
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<tr>
<td>DISS. ANESTH.</td>
<td></td>
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<tr>
<td>NARCOTS</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>INHALS</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>CANNABS</td>
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</table>

3. REVIEW OF SYMPTOMATOLOGY

SOLICIT STUDENTS' QUESTIONS ABOUT DRUG STATISTICS

Prepare a "symptomatology matrix" on the dry erase board:
Ask students to "fill in" the matrix by stating how each category will affect these major indicators of impairment.

RS-6

a. Name six different CNS Depressants.

Write students' responses on the dry erase board.

b. Name four different CNS Stimulants.

Methamphetamine, Cocaine, Amphetamines, Ritalin
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>Name two naturally-occurring Hallucinogens.</td>
<td>Peyote and Psilocybin</td>
</tr>
<tr>
<td>d.</td>
<td>Name four different synthetic Hallucinogens.</td>
<td>LSD, MDMA, MDA, TMA, STP, DMT.</td>
</tr>
<tr>
<td>e.</td>
<td>Name a major analog of PCP.</td>
<td>Ketamine</td>
</tr>
<tr>
<td>f.</td>
<td>Name the three sub-categories of Inhalants.</td>
<td>Anesthetic gases, Aerosols, Volatile Solvents</td>
</tr>
<tr>
<td>g.</td>
<td>What is the active ingredient in Cannabis?</td>
<td>Delta 9 THC</td>
</tr>
</tbody>
</table>

SOLICIT STUDENTS' QUESTIONS ABOUT DRUG CATEGORIES & SYMPTOMATOLOGY.

4. REVIEW OF VITAL SIGNS

RS-7

a. Pulse Rate
   (1) Define "Pulse". Contraction and expansion of an artery, generated by the pumping action of the heart.
   (2) True or false: Pulse rate is measured in units of "millimeters of mercury". FALSE: pulse rate is measured in "beats per minute".
   (3) Name three different pulse points, and indicate where they are located. Make sure that students point out the Radial, Brachial and Carotid pulse points.

RS-8

(4) What is the "normal" range of adult human pulse rate, for DRE purposes? 60-90 beats per minute.

RS-9

b. Blood Pressure
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) Define &quot;Blood Pressure&quot;.</td>
<td>The force that the circulating blood exerts on the walls of the arteries.</td>
</tr>
<tr>
<td></td>
<td>(2) Name the instrument used to measure blood pressure.</td>
<td>SPHYGMOMANOMETER: Ask a student to spell this, and write the correct spelling on the chalkboard.</td>
</tr>
<tr>
<td></td>
<td>(3) When does blood pressure reach its highest value? What is the highest value called?</td>
<td>The systolic pressure is reached when the heart contracts and pushes blood into the arteries.</td>
</tr>
<tr>
<td></td>
<td>(4) When does blood pressure reach its lowest value? What is the lowest value called?</td>
<td>The diastolic pressure is reached when the heart is fully expanded.</td>
</tr>
<tr>
<td></td>
<td>(5) What is the &quot;normal&quot; range of adult human blood pressure, for DRE purposes?</td>
<td>Systolic: 120-140 Diastolic: 70-90</td>
</tr>
<tr>
<td></td>
<td>(6) What does &quot;Hg&quot; stand for?</td>
<td>Chemical symbol for mercury (&quot;Hydrargyrum&quot;, latin word for &quot;Mercury&quot;). B/P is measured in millimeters of mercury. SOLICIT STUDENTS' QUESTIONS ABOUT VITAL SIGNS.</td>
</tr>
<tr>
<td>RS-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS-11</td>
<td>5. REVIEW OF THE EYE EXAMINATIONS</td>
<td></td>
</tr>
<tr>
<td>RS-12</td>
<td>a. Horizontal Gaze Nystagmus</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>------</td>
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</tbody>
</table>
|      | (1) What are the three validated clues of impairment that have been established for HGN? | o Lack of Smooth Pursuit  
o Distinct and Sustained Nystagmus at Maximum Deviation  
o Angle of Onset Prior to 45 Degrees |
| RS-13 | (2) What formula expresses the approximate statistical relationship between BAC and onset angle? | BAC = 50 - Angle |
|      | (3) What categories of drugs usually will cause HGN? | o CNS Depressants  
o Dissociative Anesthetics  
o Inhalants |
| RS-14 | b. Vertical Gaze Nystagmus | TRUE: All drugs that cause Horizontal Gaze Nystagmus will cause Vertical Gaze Nystagmus, if the dose is large enough.  
NO DRUG CAUSES VERTICAL GAZE NYSTAGMUS BUT NOT HGN. |
|      | (1) True or False: any drug that causes HGN may also cause Vertical Gaze Nystagmus. | TRUE: CNS Depressants, Dissociative Anesthetics and Inhalants usually cause the eyes to be unable to converge.  
CANNABIS usually causes Lack of Convergence, but doesn't cause nystagmus.  
SOLICIT STUDENTS' QUESTIONS ABOUT THE EYE EXAMINATIONS. |
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
</table>
|      | 6. REVIEW OF THE DARKROOM EXAMINATIONS | o Room Light  
o Near Total Darkness  
o Direct Light |
| RS-16| a. What are the three lighting conditions under which we must estimate the size of the suspect's pupils? | At least 90 seconds. |
|      | b. How long should we wait in the Darkroom before beginning to check the suspect's pupils? | |
|      | c. Name the device that we use to estimate the size of the suspect's pupils. | Pupillometer |
| RS-17| d. What do the numbers on the Pupillometer refer to? | The diameters of the dark circles/semi circles. |
|      | e. In what units of measurement are those number given? | In millimeters. |
|      | f. For DRE purposes, what is the "normal" range of the size of an adult human's pupil in room light? | The diameter of the pupil normally ranges from about 2.5 to 5.0 mm. |
| RS-18| g. What does the term "MIOSIS" mean? | "Miosis" means an abnormally small or constricted pupil. |
|      | h. What does the term "MYDRIASIS" mean? | "Mydriasis" means an abnormally large or dilated pupil. |
| RS-19| i. What category of drugs usually causes Miosis, or constricted pupils? | Narcotic Analgesics usually cause pupils to be constricted below the normal range. |
|      | j. What categories usually cause Mydriasis, or dilated pupils? | CNS Stimulants and Hallucinogens usually cause pupils to be dilated above the |
normal range. Cannabis also may cause dilation. Some inhalants will also cause dilation. Methaqualone and Soma are CNS Depressants that cause pupil dilation. SOLICIT STUDENTS’ QUESTIONS ABOUT THE DARKROOM EXAMS.

7. REVIEW OF THE DIVIDED ATTENTION TESTS

a. Name the four Divided Attention Tests administered during the DRE Examination.

b. Why is the Romberg Balance always the first test administered?

(1) For standardization.
(2) The test requires the suspect to estimate the passage of 30 seconds; thus, it should be administered before the One Leg Stand test, in which the suspect is instructed to count out 30 seconds.

c. Four validated clues of impairment have been established for the One Leg Stand Test; name them.

o Swaying
o Raising the arms
o Hopping
o Putting the foot down

d. How many times is One Leg Stand administered during the DRE drug influence evaluation?

Twice
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.</td>
<td>Which foot must the suspect stand on first when performing the One Leg Stand?</td>
<td>Left</td>
</tr>
<tr>
<td>RS-25</td>
<td>f. How many validated clues of impairment have been established for the Walk and Turn test? Name them.</td>
<td>Eight validated clues.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Cannot keep balance during the instructions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Starts too soon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Stops while walking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Misses heel to toe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Steps of the line</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Uses arms to balance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Improper turn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Incorrect number of steps</td>
</tr>
<tr>
<td>RS-26</td>
<td>g. In what sequence is the suspect instructed to touch the index fingers to the nose on the Finger to Nose test?</td>
<td>Left, Right, Left, Right, Right, Left.</td>
</tr>
<tr>
<td>RS-27</td>
<td>8. GENERAL REVIEW QUESTIONS</td>
<td>SOLICIT STUDENTS' QUESTIONS ABOUT THE DIVIDED ATTENTION TESTS.</td>
</tr>
<tr>
<td>a.</td>
<td>What is the medical or technical term for &quot;droopy eyelids&quot;?</td>
<td>Ptosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Piloerection&quot; means &quot;Hair Standing Up&quot;, or &quot;Goose Bumps.&quot; Often caused by LSD.</td>
</tr>
<tr>
<td>c.</td>
<td>What is the medical or technical term for Heroin?</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>------</td>
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<tr>
<td>d.</td>
<td>Explain the terms &quot;Null&quot;, &quot;Additive&quot;, &quot;Antagonistic&quot; and &quot;Overlapping&quot; Effect as they apply to polydrug use. Give examples.</td>
<td>&quot;Null&quot;: neither drug affects some specific indicator. &quot;Additive&quot;: the two drugs produce some identical effects. &quot;Antagonistic&quot;: the two drugs produce some directly opposite effects. &quot;Overlapping&quot;: one drug affects some symptom that the other doesn't affect, and vice versa.</td>
</tr>
<tr>
<td>e.</td>
<td>What is the difference between &quot;Hippus&quot; and &quot;Rebound Dilation&quot;?</td>
<td>&quot;Hippus&quot; refers to pupils that pulsate rhythmically in size between fixed limits; usually, Hippus develops during withdrawal from Narcotic Analgesics. &quot;Rebound Dilation&quot; is a period of constriction followed by dilation with a change equal to or greater than 2 mm.</td>
</tr>
<tr>
<td>f.</td>
<td>What is the drug &quot;Percobarb&quot;?</td>
<td>It is a combination of the natural opiate Percodan with a barbiturate. Percobarb thus is a polydrug, a combination of a Narcotic Analgesic and a CNS Depressant.</td>
</tr>
<tr>
<td>g.</td>
<td>What does &quot;Bruxism&quot; mean?</td>
<td>Grinding the teeth.</td>
</tr>
<tr>
<td>h.</td>
<td>What does the number denoting the size of an hypodermic needle refer to?</td>
<td>The inside diameter of the needle.</td>
</tr>
<tr>
<td>i.</td>
<td>What does &quot;Synesthesia&quot; mean?</td>
<td>A mixing of senses, i.e., hearing colors or seeing sounds.</td>
</tr>
<tr>
<td>j.</td>
<td>What is &quot;Sinsemilla&quot;?</td>
<td>A variety of marijuana with a high concentration of THC.</td>
</tr>
</tbody>
</table>
### Aids Lesson Plan

<table>
<thead>
<tr>
<th>k. What are the twelve major components of the DRE Examination?</th>
</tr>
</thead>
<tbody>
<tr>
<td>List students' responses on the flip-chart or dry erase board.</td>
</tr>
<tr>
<td>o Breath Alcohol Test</td>
</tr>
<tr>
<td>o Interview of Arresting Officer</td>
</tr>
<tr>
<td>o Preliminary Examination</td>
</tr>
<tr>
<td>o Examinations of the Eyes</td>
</tr>
<tr>
<td>o Divided Attention Tests</td>
</tr>
<tr>
<td>o Vital Signs Examinations</td>
</tr>
<tr>
<td>o Dark Room Examinations</td>
</tr>
<tr>
<td>o Examination of Muscle Tone</td>
</tr>
<tr>
<td>o Examination for Injection Sites</td>
</tr>
<tr>
<td>o Suspect's Statements</td>
</tr>
<tr>
<td>o Opinion of the Evaluator</td>
</tr>
<tr>
<td>o Toxicological Exam</td>
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</tbody>
</table>

Ask students to describe each component briefly, and to clarify the kinds of information each component supplies.

<table>
<thead>
<tr>
<th>9. REVIEW OF PHYSIOLOGY</th>
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<table>
<thead>
<tr>
<th>a. Name the ten major body systems.</th>
</tr>
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<tbody>
<tr>
<td>List students' responses on the flipchart or dry-erase board.</td>
</tr>
<tr>
<td>o Muscular System</td>
</tr>
<tr>
<td>o Urinary System</td>
</tr>
<tr>
<td>o Respirator System</td>
</tr>
<tr>
<td>o Digestive System</td>
</tr>
<tr>
<td>o Endocrine System</td>
</tr>
<tr>
<td>o Reproductive System</td>
</tr>
<tr>
<td>o Skeletal System</td>
</tr>
<tr>
<td>o Integumentary System</td>
</tr>
<tr>
<td>o Nervous System</td>
</tr>
<tr>
<td>o Circulatory System</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>b. What is the distinction between the &quot;Smooth&quot; muscles and the &quot;Striated&quot; muscles?</th>
</tr>
</thead>
<tbody>
<tr>
<td>We consciously control the Striated; we don't consciously control the Smooth.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c. What do we call the chemicals that are produced by the Endocrine System?</th>
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<tbody>
<tr>
<td>Hormones.</td>
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RS-32

RS-33

RS-34
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<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>d.</td>
<td>What is a neuron?</td>
<td>A nerve cell.</td>
</tr>
<tr>
<td>e.</td>
<td>What do we call the space between two nerve cells?</td>
<td>The synapse, or synaptic gap.</td>
</tr>
<tr>
<td>f.</td>
<td>What do we call the chemicals that pass from one nerve cell to the next?</td>
<td>Neurotransmitters.</td>
</tr>
<tr>
<td>g.</td>
<td>What do we call the part of a nerve cell that sends out the neurotransmitter?</td>
<td>The axon.</td>
</tr>
<tr>
<td>h.</td>
<td>What do we call the part of a nerve cell that receives the neurotransmitter?</td>
<td>The dendrite.</td>
</tr>
<tr>
<td>i.</td>
<td>What do the Sensory Nerves do?</td>
<td>Carry messages to the brain, from the sense organs, pain sensors, etc.</td>
</tr>
<tr>
<td>j.</td>
<td>What do the Motor Nerves do?</td>
<td>Carry messages from the brain, to the muscles, etc.</td>
</tr>
<tr>
<td>k.</td>
<td>Name the two sub-divisions of Motor Nerves.</td>
<td>Voluntary (control striated muscles) and Autonomic (control smooth muscles).</td>
</tr>
<tr>
<td>l.</td>
<td>Name the two sub-divisions of Autonomic Nerves and describe their functions.</td>
<td>Sympathetic (command the body's response to fear, excitement, etc.), and Parasympathetic (promote the body's tranquil activities).</td>
</tr>
<tr>
<td>m.</td>
<td>What does it mean to say that a drug is &quot;sympathomimetic&quot;?</td>
<td>It means that the drug's effects mimic those caused by messages transmitted along sympathetic nerves (excitement, agitation, arousal, etc.).</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>n.</td>
<td>What does it mean to say that a drug is &quot;parasympatho-mimetic&quot;?</td>
<td>The drug's effects mimic those caused by messages transmitted along parasympathetic nerves (relaxation, calm, sleep, etc.).</td>
</tr>
<tr>
<td>o.</td>
<td>Which two categories of drugs can most appropriately be called sympathomimetic?</td>
<td>CNS Stimulants and Hallucinogens.</td>
</tr>
<tr>
<td>p.</td>
<td>Which category can most appropriately be called parasympathomimetic?</td>
<td>Narcotic Analgesics.</td>
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<tr>
<td></td>
<td>Clarification: Cannabis, Dissociative Anesthetics and Inhalants have some sympathomimetic characteristics, but not as many as do the CNS Stimulants and Hallucinogens. Depressants have some parasympathomimetic characteristics, but not as many as do the Narcotic Analgesics.</td>
<td></td>
</tr>
<tr>
<td>q.</td>
<td>What is an artery?</td>
<td>Strong, elastic blood vessel that carries blood from the heart to the body's tissues and organs.</td>
</tr>
<tr>
<td>r.</td>
<td>What is a vein?</td>
<td>Blood vessel that carries blood back to the heart from the tissues and organs.</td>
</tr>
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<td>s.</td>
<td>What is the Pulmonary Artery, and what is unique about it?</td>
<td>It is the artery that carries blood from the heart to the lungs. It is the only artery that carries blood depleted of oxygen.</td>
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<td>They are the veins that carry blood back to the heart from the lungs. They are the only veins that carry blood rich in oxygen.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>SOLICIT STUDENTS' QUESTIONS ABOUT PHYSIOLOGY.</td>
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<td>SOLICIT ANY ADDITIONAL QUESTIONS THAT THE STUDENTS MIGHT HAVE.</td>
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<td>ADMINISTER QUIZ NUMBER FIVE TO THE STUDENTS. ALLOW 20 MINUTES FOR THE STUDENTS TO COMPLETE THE QUIZ. REVIEW THE QUIZ WITH THE CLASS, AND ALLOW THE STUDENTS TO RETAIN THE QUIZ FOR THEIR INDEPENDENT STUDY.</td>
</tr>
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<td>THANK THE STUDENTS FOR ATTENDING THE OPTIONAL REVIEW SESSION.</td>
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</tbody>
</table>
Review of the DRE School

How do we define the term “drug” for DRE purposes?

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

Basic Drug Statistics

- What percentage of DWI arrests involve drugs other than alcohol?
  - LAPD Estimate: 10-20%
- What drug other than alcohol was found most frequently in the Los Angeles Field Validation Study?
  - PCP
- What does “polydrug use” mean?
  - Ingesting drugs from two or more drug categories

Basic Drug Statistics

- How common was polydrug use in the LA Field Validation Study?
  - More than 70% of the suspects had two or more drug categories in them
- How good were the DREs in the Field Validation Study?
  - Nearly 80% of the time when the DREs said a particular category of drugs was present, that category was found in the suspect’s blood.
  - In more than 90% of the cases, the DREs correctly identified at least one of the categories that were present

Basic Drug Statistics

- In the University of Tennessee Study, what percentage of injured drivers had drugs other than alcohol in them?
  - 40% of those drivers had evidence of other drugs in their urine

Review of Symptomatology

- Name six different CNS Depressants
- Name four different CNS Stimulants
- Name two naturally-occurring Hallucinogens
- Name four different synthetic Hallucinogens
Review of Symptomatology

- Name a major analog of PCP
- Name the three sub-categories of Inhalants
- What is the active ingredient in Cannabis?

Review of Vital Signs

- Pulse Rate
  - Define “Pulse”
    * Contraction and expansion of an artery, generated by the pumping action of the heart
  - True or false: Pulse rate is measured in units of "millimeters of mercury"?
    * FALSE: pulse rate is measured in "beats per minute"

Review of Vital Signs

- Pulse Rate (Cont.)
  - Name three different pulse points, and indicate where they are located.
    * Radial, Brachial and Carotid pulse points
  - What is the "normal" range of adult human pulse rate, for DRE purposes?
    * 60-90 beats per minute

Review of Vital Signs

- Blood Pressure
  - Define “Blood Pressure”.
    * The force that the circulating blood exerts on the walls of the arteries
  - Name the instrument used to measure blood pressure.
    * Sphygmomanometer
  - When does blood pressure reach its highest value? What is the highest value called?
    * The systolic pressure is reached when the heart contracts and pushes blood into the arteries

Review of Vital Signs

- Blood Pressure (Cont.)
  - When does blood pressure reach its lowest value? What is the lowest value called?
    * The diastolic pressure is reached when the heart is fully expanded
  - What is the "normal" range of adult human blood pressure, for DRE purposes?
    * Systolic: 120-140mmHg
    * Diastolic: 70-90mmHg

Review of Vital Signs

- Blood Pressure (Cont.)
  - What does “Hg” stand for?
    * Chemical symbol for mercury (“Hydarygryum”, Latin word for “Mercury”). Blood pressure is measured in millimeters of mercury
Review of the Eye Examinations

• Horizontal Gaze Nystagmus
  - What are the three validated clues of impairment that have been established for HGN?
    * Lack of Smooth Pursuit
    * Distinct and Sustained Nystagmus at Maximum Deviation
    * Angle of Onset of Nystagmus Prior to 45 Degrees

• Horizontal Gaze Nystagmus (Cont.)
  - What formula expresses the approximate statistical relationship between BAC and the angle of onset of nystagmus?
    * BAC = 50 - angle
  - What categories of drugs usually will cause HGN?
    * CNS Depressants
    * Dissociative Anesthetics
    * Inhalants

Review of the Eye Examinations

• Vertical Gaze Nystagmus
  - True or False: Any drug that causes HGN may also produce Vertical Gaze Nystagmus.
    * TRUE: All drugs that cause Horizontal Gaze Nystagmus will cause Vertical Gaze Nystagmus, if the dose is large enough
  - What category of drugs causes Vertical Gaze Nystagmus but not Horizontal Gaze Nystagmus?
    * NO drug causes Vertical Gaze Nystagmus but not HGN

• Lack of Convergence
  - True or False: Any drug that causes nystagmus will also usually cause the eyes to be unable to converge.
    * TRUE: CNS Depressants, Dissociative Anesthetics and Inhalants usually cause the eyes to be unable to converge
  - What category of drugs usually causes lack of convergence but does not cause nystagmus?
    * CANNABIS usually causes Lack of Convergence, but doesn't cause nystagmus

Review of the Darkroom Examinations

• What are the three lighting conditions under which we must estimate the size of the suspect's pupils?
  - Room Light
  - Near Total Darkness
  - Direct Light
  - How long should we wait in the Darkroom before beginning to check the suspect's pupils?
    - At least 90 seconds

• Name the device that we use to estimate the size of the suspect's pupils.
  - Pupillometer

• What do the numbers on the Pupillometer refer to?
  - The diameters of the dark circles/semi-circles
  - In what units of measurement are those numbers given?
    - In millimeters
Review of the Darkroom Examinations

- For DRE purposes, what is the “normal” range of an adult pupil in room light?
  - The diameter of the pupil normally ranges from about 2.5 to 5.0 mm
- What does the term “Miosis” mean?
  - “Miosis” means an abnormally small or constricted pupil

Review of the Darkroom Examinations

- What does the term “MYDRIASIS” mean?
  - “Mydriasis” means an abnormally large or dilated pupil
- What category of drugs usually causes Miosis, or constricted pupils?
  - Narcotic Analgesics usually cause pupils to constrict below the normal range

Review of the Darkroom Examinations

- What categories usually cause Mydriasis, or dilated pupils?
  - CNS Stimulants and Hallucinogens usually cause pupils to dilate above the normal range. Cannabis also may cause dilation. Some inhalants will also cause dilation.
- What is unique about the drug Methaqualone (Quaaludes) and SOMA?
  - Both are CNS Depressants that cause pupil dilation.

Review of the Divided Attention Tests

- Name the four Divided Attention Tests administered during the DRE drug influence evaluation.
  - Romberg Balance
  - Walk and Turn
  - One Leg Stand
  - Finger to Nose

Review of the Divided Attention Tests

- What four validated clues of impairment have been established for the One Leg Stand Test?
  - Swaying
  - Raising the arms
  - Hopping
  - Putting the foot down
Review of the Divided Attention Tests

- How many times is the One Leg Stand administered during the DRE drug influence evaluation?
  - Twice
- Which foot must the suspect stand on first when performing the One Leg Stand?
  - Left

Review of the Divided Attention Tests

- How many validated clues of impairment have been established for the Walk and Turn test? Name them.
  - Eight validated clues
    - Cannot keep balance during the instructions
    - Starts too soon
    - Stops while walking
    - Misses heel to toe
    - Stops off the line
    - Uses arms to balance
    - Improper turn
    - Incorrect number of steps

Review of the Divided Attention Tests

- In what sequence is the suspect instructed to touch the index fingers to the nose on the Finger to Nose test?
  - Left, Right, Left, Right, Left

General Review Questions

- What is the medical or technical term for “droopy eyelids”?
  - Ptosis
- What does “Piloerection” mean? What drug often causes piloerection?
  - “Piloerection” means “Hair Standing Up”, or “Goose Bumps”. It is often caused by LSD
- What is the medical or technical term for Heroin?
  - Diacetyl Morphine

General Review Questions

- Explain the terms “Null”, “Additive”, “Antagonistic” and “Overlapping” Effect as they apply to polydrug use. Give examples.
  - “Null”: neither drug affects some specific indicator
  - “Additive”: the drugs produce some identical effects
  - “Antagonistic”: the two drugs produce some directly opposite effects
  - “Overlapping”: one drug affects some symptom that the other doesn’t affect, and vice versa

General Review Questions

- What is the difference between “Hippus” and “Rebound Dilation”?
  - “Hippus” refers to pupils that pulsate rhythmically in size between fixed limits; usually, Hippus develops during withdrawal from Narcotic Analgesics
  - “Rebound Dilation” is a period of constriction followed by dilation with a change equal to or greater than 2 mm.
General Review Questions

- What is the drug “Percobarb”?
  - It is a combination of the natural opiate Percodan with a barbiturate. Percobarb thus is a polydrug, a combination of a Narcotic Analgesic and a CNS Depressant.
- What does “Bruxism” mean?
  - Grinding the teeth.

General Review Questions

- What does the number denoting the size of a hypodermic needle refer to?
  - The inside diameter of the needle.
- What does “Synesthesia” mean?
  - A mixing of senses, i.e., hearing colors or seeing sounds.
- What is “Sinsemilla”?
  - A variety of marijuana with a high concentration of THC.

General Review Questions

- What are the twelve major components of the DRE drug influence evaluation?
  - Breath Alcohol Test
  - Interview of Arresting Officer
  - Preliminary Examination
  - Examinations of the Eyes
  - Divided Attention Tests
  - Vital Signs Examinations
  - Dark Room Examinations
  - Examination for Muscle Tone
  - Examination for Injection Sites
  - Suspect’s Statements
  - Opinion of the Evaluator
  - Toxicological Exam

Review of Physiology

Name the ten major body systems.

M is for Muscular System
U is for Urinary System
R is for Respiratory System
D is for Digestive System
E is for Endocrine System
R is for Reproductive System
S is for Skeletal System

Review of Physiology

- What is the distinction between the “Smooth” muscles and the “Striated” muscles?
  - We consciously control the Striated; we don’t consciously control the Smooth.
- What do we call the chemicals that are produced by the Endocrine System?
  - Hormones.
- What is a neuron?
  - A nerve cell.

Review of Physiology

- What do we call the space between two nerve cells?
  - Synapse, or synaptic gap.
- What do we call the chemicals that pass from one nerve cell to the next?
  - Neurotransmitters.
- What do we call the part of the nerve cell that sends out the neurotransmitter?
  - The axon.
Review of Physiology

- What do we call the part of a nerve cell that receives the neurotransmitter?
  - Dendrite

- What do the Sensory Nerves do?
  - Carry messages to the brain, from the sense organs, pain sensors, etc.

- What do the Motor Nerves do?
  - Carry messages from the brain, to the muscles, etc.

Review of Physiology

- Name the two subdivisions of Motor Nerves.
  - Voluntary (control striated muscles) and Autonomic (control smooth muscles)

- Name the two subdivisions of Autonomic Nerves and describe their functions.
  - Sympathetic (command the body’s response to fear, excitement, etc.), and Parasympathetic (promote the body’s tranquil activities)

Review of Physiology

- What does it mean to say that a drug is “sympathomimetic”?
  - It means that the drug’s effects mimic those caused by messages transmitted along sympathetic nerves (excitement, agitation, arousal, etc.)

- What does it mean to say that a drug is “parasympathomimetic”?
  - The drug’s effects mimic those caused by messages transmitted along parasympathetic nerves (relaxation, calm, sleep, etc.)

Review of Physiology

- Which two categories of drugs can most appropriately be called sympathomimetic?
  - CNS Stimulants and Hallucinogens

- Which category can most appropriately be called parasympathomimetic?
  - Narcotic Analgesics
    - Clarification: Cannabis, Dissociative Anesthetics, and Analgesics have some sympathomimetic characteristics, but not as many as do the Stimulants and Hallucinogens. Depressants have some parasympathomimetic characteristics, but not as many as do the Narcotic Analgesics.

Review of Physiology

- What is an artery?
  - Strong, elastic blood vessel that carries blood from the heart to the body’s tissues and organs

- What is a vein?
  - Blood vessel that carries blood back to the heart from tissues and organs

Review of Physiology

- What is the Pulmonary Artery, and what is unique about it?
  - It is the artery that carries blood from the heart to the lungs. It is the only artery that carries blood depleted of oxygen

- What are the Pulmonary Veins and what is so special about them?
  - They are the veins that carry blood back to the heart from the lungs. They are the only veins that carry blood rich in oxygen.
QUESTIONS?
A SELF-TEST FOR REVIEW AND STUDY

Circle the letters corresponding to the correct answers. Note that some questions have more than one correct answer.

1. Suppose you examine a suspect that you know is under the combined influence of Demerol and Thorazine. Which of the following would you not expect to find in that suspect? (Circle all that you wouldn't expect)

   A. Tachycardia is present
   B. Horizontal Gaze Nystagmus is present
   C. Hypotension is present
   D. Mydriasis is present
   E. Lack of Convergence is present

2. The Autonomic Nervous System has sympathetic nerves and ____ nerves.

   A. parasympathetic
   B. metasympathetic
   C. postsympathetic
   D. mesosympathetic
   E. pilosympathetic

3. Suppose you examine a suspect that you know is under the combined influence of Ketamine and Methamphetamine, and you observe that he or she exhibits Horizontal Gaze Nystagmus. This is an example of ....

   A. A Synergistic Effect
   B. An Antagonistic Effect
   C. The Null Effect
   D. An Overlapping Effect
   E. An Additive Effect

4. The technical term meaning "constricted pupils" is ....

   A. Mydriasis
   B. Occulusis
   C. Miosis
   D. Bruxism
   E. Ptosis
5. Chloral Hydrate is an example of ....
   A. a Non-Barbiturate  
   B. an Anti-Psychotic Tranquilizer  
   C. an Anti-Depressant  
   D. a Barbiturate  
   E. an Anti-Anxiety Tranquilizer

6. Hydrocodone is derived from which of the following opium alkaloids?
   A. Codeine  
   B. Morphine  
   C. Thebaine  
   D. Heroin  
   E. Non of the above

7. Which of the following ordinarily will cause Horizontal Gaze Nystagmus? (Circle all that usually cause nystagmus.)
   A. Methamphetamine  
   B. Valium  
   C. The combination of Cocaine and Xanax  
   D. The combination of Cannabis and LSD  
   E. The combination of Heroin and Dilaudid

8. Ritalin is an example of ....
   A. a CNS Stimulant  
   B. a Narcotic Analgesic  
   C. an Hallucinogen  
   D. a CNS Depressant  
   E. an Analog of Phencyclidine

9. Suppose you examine a suspect that you know is under the combined influence of Heroin and PCP, and you observe that he or she exhibits miosis. This is most likely due to ....
   A. The "Downside" of Heroin  
   B. An Overlapping Effect between the two drugs  
   C. An Antagonistic Effect between the two drugs  
   D. An Additive Effect between the two drugs  
   E. The "Downside" of PCP
10. Which of the following usually will be true in a subject who is under the influence of an Hallucinogen? (Circle all that usually will be true.)

A. Pupils will be constricted
B. Body temperature will be elevated
C. Eyes will be unable to converge
D. Blood pressure will be elevated
E. Horizontal Gaze Nystagmus will be present

11. Which of the following is not classified as an Hallucinogen? (Circle all that are not Hallucinogens.)

A. ETOH
B. DOM
C. MDMA
D. MPPP
E. THC

12. Which of the following ordinarily will leave body temperature within the normal range? (Circle all that usually don't affect body temperature.)

A. CNS Stimulants
B. Dissociative Anesthetics
C. Cannabis
D. CNS Depressants
E. All of the above usually do affect body temperature

13. Suppose you examine a suspect that you know is under the combined influence of Percodan and Cannabis, and you find that the suspect's pulse rate is 74 bpm. This is most likely due to ....

A. An Additive Effect between the two drugs
B. The "Downside" of Cannabis
C. An Overlapping Effect between the two drugs
D. An Antagonistic Effect between the two drugs
E. The "Downside" of Percodan

14. How many distinct, validated clues have been established for the Romberg Balance test?

A. Eight
B. Six
C. Four
D. Three
E. There are no validated clues for that test.
15. A person under the combined influence of Ritalin and LSD usually will have above normal blood pressure. This is an example of ....

A. An Overlapping Effect
B. A Synergistic Effect
C. The Null Effect
D. An Additive Effect
E. An Antagonistic Effect

16. The gap between two nerve cells is called the ....

A. Vesicle
B. Neuron
C. Synapse
D. Dendrite
E. Axon

17. "Ptosis" most nearly means ....

A. Dilated pupils
B. Grinding the teeth
C. Constricted pupils
D. Droopy eyelids
E. Goose bumps

18. How many distinct, validated clues have been established for the Walk-and-Turn test?

A. Eight
B. Six
C. Four
D. Three
E. There are no validated clues for that test.

19. Which of the following are not subcategories of Inhalants? (Circle all that are not proper names for Inhalant Subcategories.)

A. Fluorocarbons
B. Anesthetic Gases
C. Aerosols
D. Volatile Solvents
E. Propellants
20. Phencyclidine is best described as ....
   A. parasympathomimetic
   B. an anti-depressant
   C. a cellular stimulant
   D. psychotrophic
   E. a dissociative anesthetic

21. Which of the following usually will not cause the pupils to dilate? (Circle all that usually do not cause dilation.)
   A. MDMA
   B. Methaqualone
   C. Dexedrine
   D. Peyote
   E. Ketamine

22. Which subcategory or subcategories of Inhalants usually cause blood pressure to be below normal? (Circle all that usually cause below normal blood pressure.)
   A. Anesthetic Gases
   B. Propellants
   C. Volatile Solvents
   D. Aerosols
   E. Fluorocarbons

23. Which of the following are Natural Alkaloids of opium? (Circle all that are Natural Alkaloids.)
   A. Lortab
   B. Dilaudid
   C. Codeine
   D. Thebaine
   E. Hycodan

24. "Crank" is a street name for ....
   A. Heroin
   B. Cocaine
   C. PCP
   D. Methamphetamine
   E. LSD
25. Which of the following are not validated clues for the One Leg Stand test? (Circle all that aren't validated clues.)

A. Hopping
B. Raising the arms
C. Putting the foot down
D. Failing to count out loud
E. Swaying

26. Which of the following would be considered sympathomimetic drugs? (Circle all that are sympathomimetic.)

A. MDMA
B. Dexedrine
C. Xanax
D. Oxycontin
E. Desoxyn

27. Suppose you examine a suspect, and you observe all of the following: Horizontal Gaze Nystagmus is present, with an onset of approximately 30 degrees; BAC is 0.00; eyes are unable to converge; pupil size is 5.5 mm in near-total darkness and 3.5 mm in direct light; pupil reaction to light is within normal; pulse rate is 100 bpm; blood pressure is 148/96; body temperature is 99.8 degrees. In your opinion, this suspect is under the influence of ....

A. a combination of a CNS Depressant and a CNS Stimulant
B. a CNS Depressant alone
C. a Dissociative Anesthetic, alone
D. a combination of Dissociative Anesthetic and a CNS Stimulant
E. a combination of a CNS Depressant and Cannabis

28. The only artery that carries de-oxygenated blood is the ____ artery.

A. Carotid
B. Brachial
C. Pulmonary
D. Radial
E. Coronal
29. Suppose a subject is under the influence of Hycodan and nothing else. Indicate whether each of the following will be true or false:

A. T  F Horizontal Gaze Nystagmus will not be present  
B. T  F Pupils will be constricted  
C. T  F Bradycardia will be present  
D. T  F Eyes will be able to converge  
E. T  F Hypotension will be present

30. "Bruxism" most nearly means ....

A. Dilated pupils  
B. Grinding the teeth  
C. Constricted pupils  
D. Droopy eyelids  
E. Goose bumps

31. Suppose a suspect is under the influence of a combination of Marijuana and Cocaine, but nothing else. Indicate whether each of the following will be true or false:

A. T  F Pulse rate will be elevated  
B. T  F Pupils will be dilated  
C. T  F Horizontal Gaze Nystagmus will be present  
D. T  F Eyes will be able to converge  
E. T  F Blood pressure will be elevated

32. How many distinct, validated clues have been established for the Finger-to-Nose test?

A. Eight  
B. Six  
C. Four  
D. Three  
E. There are no validated clues for this test.

33. The drug ____ is an example of an Anti-Anxiety Tranquilizer. (Circle all that are Anti-Anxiety Tranquilizers.)

A. Librium  
B. Valium  
C. Amobarbital  
D. Chloral Hydrate  
E. Xanax
ANSWER KEY FOR THE SELF-TEST

1. Correct answers are A and D. Demerol is a Narcotic Analgesic, Thorazine is a CNS Depressant. The combination should not produce elevated heart rate (Tachycardia) nor dilated pupils (Mydriasis). But Horizontal Gaze Nystagmus and Lack of Convergence should be present, due to the Depressant, Thorazine. And, lowered blood pressure (Hypotension) should be present as an Additive Effect of both drugs.

2. Correct answer is A, parasympathetic.

3. Correct answer is D, Overlapping. Ketamine is an Analog of PCP, a drug that usually does cause Horizontal Gaze Nystagmus. Methamphetamine is a CNS Stimulant, a type of drug that doesn't affect nystagmus. This is a case of action plus no action equals action, i.e., an Overlapping Effect.

4. Correct answer is C, Miosis.

5. Correct answer is A, Non-Barbiturate.

6. Correct answer is A, Codeine.

7. Correct answers are B and C. Valium is a CNS Depressant, which of course causes nystagmus. The combination of Cocaine and Xanax gives us a Stimulant and a Depressant (Xanax), which causes Nystagmus via an Overlapping Effect. None of the other drugs mentioned cause Nystagmus: Methamphetamine is a Stimulant; LSD is an Hallucinogen; Heroin and Dilaudid are Narcotics; Cannabis, of course, is its own category.

8. Correct answer is A, CNS Stimulant.

9. Correct answer is B, Overlapping. Heroin, a Narcotic, causes constriction of the pupils (Miosis); PCP does not affect pupil size. This is another case of action plus no action equals action.

10. Correct answers are B and D. Hallucinogens are sympathomimetic drugs, and therefore usually elevate the vital signs. But they have no affect on either Nystagmus or Lack of Convergence. And, instead of constricting the pupils, Hallucinogens usually cause pupils to dilate.
11. Correct answers are A, D and E.
ETOH is the chemical name for Ethyl Alcohol, the common beverage form of alcohol that remains the most commonly-abused drug. MPPP is a synthetic opiate. THC is the primary active ingredient in Cannabis. But "MDMA" (also known as "Ecstasy") and "DOM" (also known as "STP") are Hallucinogens.

12. Correct answers are C and D, Cannabis and Depressants.

13. Correct answer is D, Antagonistic.
A pulse rate of 74 bpm is within the normal range. Percodan, a Narcotic Analgesic, usually lowers the pulse, while Cannabis usually elevates the pulse. The Antagonistic Effect of the two drugs has put this suspect's pulse into a precarious, and probably temporary, state of balance.

14. Correct answer is E, no validated clues.
It is important to understand that, when we say there are no validated clues for Romberg, that does not mean that the test is invalid. It simply means that we do not have the research data to attest that specific clues on that test are statistically reliable indicators of impairment. Those kinds of research data, at the present time, are available only for Horizontal Gaze Nystagmus, Walk and Turn and One Leg Stand.

15. Correct answer is D, Additive.
Ritalin (a Stimulant) and LSD (an Hallucinogen) both usually elevate blood pressure.

16. Correct answer is C, Synapse.

17. Correct answer is D, Droopy Eyelids.

18. Correct answer is A, Eight.
Of the eight validated clues for Walk and Turn, two may be observed during the Instructions Stage of the test. They are can't keep balance (which means the suspect breaks away from the heel-to-toe stance) and starts too soon. The other six clues pertain to the Walking Stage of the test. They include:

- misses heel-to-toe
- raises arms
- steps off line
- stops walking
- turns improperly
- takes the wrong number of steps
Although these eight are the only validated clues for Walk and Turn, they aren't the only things that might be observed that could serve as evidence of impairment. All of your observations of the suspect are important.

19. Correct answers are A and E, Fluorocarbons and Propellants.
   The only proper names for subcategories of Inhalants are Volatile Solvents, Aerosols and Anesthetic Gases.

20. Correct answer is E, dissociative anesthetic.

21. Correct answer is E, Ketamine.
   Ketamine is an analog of PCP, a drug that doesn't affect pupil size. MDMA and Peyote are Hallucinogens, and Dexedrine is a CNS Stimulant; all of those dilate pupils. Methaqualone is a very special CNS Depressant; unlike almost all other Depressants, Methaqualone does affect pupil size (by dilating the pupils).

22. Correct answer is A, Anesthetic Gases.
   Volatile Solvents and Aerosols usually produce above-normal blood pressure. "Fluorocarbons" and "Propellants" are, of course, not proper names for subcategories of Inhalants.

23. Correct answers are C and D, Codeine and Thebaine.
   Metopon, Dilaudid and Lortab are all opium derivatives. Dilaudid derives from Morphine, Hycodan from Codeine and Metopon from Thebaine.

24. Correct answer is D, Methamphetamine.

25. Correct answer is D, Failing to Count Out Loud.
   Hopping, Raising the Arms, Putting the Foot Down and Swaying are the four (and only four) validated clues of impairment for One Leg Stand.

26. Correct answers are A, B and E: MDMA, Dexedrine and Desoxyn.
   Dexedrine and Desoxyn are members of the Amphetamine family of CNS Stimulants. MDMA is a "Psychedelic Amphetamine" belonging to the Hallucinogens. CNS Stimulants and Hallucinogens are the two categories that make up the sympathomimetic drugs. That means they simulate the responses that the body makes to messages conveyed along the sympathetic nerves, i.e., elevated vital signs, dilated pupils, etc. Three other categories, namely the Inhalants, Dissociative Anesthetics and Cannabis have some sympathomimetic characteristics, but they are not considered to be fully sympathomimetic, and not to the degree of the CNS Stimulants and Hallucinogens. Xanax and Oxycontin aren't even close to being sympathomimetic. Xanax (a Depressant) and Oxycontin (a Narcotic) are better described as wholly or partially parasympathomimetic.
27. Correct answer is C, Dissociative Anesthetic alone. A Dissociative Anesthetic such as PCP, by itself, can account for all of the observations listed. Dissociative Anesthetics causes Nystagmus, and Lack of Convergence; it does not affect pupil size, so the pupils remain within the normal range; it does not affect the reaction of the pupils to light; it does usually elevate all three vital signs.

A Depressant, by itself, could not account for the elevated vitals, and usually would slow the pupils' reaction to light.

If we had a combination of a Depressant and a Stimulant, we'd expect to see the pupils dilated beyond the normal range (due to an Overlapping Effect), and we'd expect to see the reaction of the pupils slowed (due to an Additive Effect). Also, although it is possible that the vital signs could all be elevated with a combination of Depressant and Stimulant, we'd probably expect to see some "moderation" of the vitals due to an Antagonistic Effect.

If we had a combination of Dissociative and a Stimulant, we could expect to see pupil dilation and some slowing of the reaction to light, due to Overlapping Effects.

If we had a combination of Depressant and Cannabis, we'd expect to find the temperature within the normal range, since neither of those drugs ordinarily affects temperature.

28. Correct answer is C, Pulmonary.

29. Correct answers are:
   (A) True: no nystagmus will be present
   (B) True: we will see miosis, or constricted pupils
   (C) True: we will find a slow pulse, or Bradycardia
   (D) True: we won't see a Lack of Convergence, so the eyes will be able to converge
   (E) True: we will find a lowered blood pressure, or Hypotension

Hycodan is a Narcotic Analgesic, and these observations will be consistent with impairment by Narcotics.

30. Correct answer is B, Grinding the Teeth

31. Correct answers are:
   (A) True: An Additive Effect will elevate the pulse for this combo
   (B) True: pupils will dilate due to an Overlapping or Additive Effect
   (C) False: neither drug causes Nystagmus, so the Null Effect will also cause no nystagmus
   (D) False: Marijuana causes Lack of Convergence, so the Overlapping
Effect means the eyes won't converge

(E) True: An Additive Effect will elevate the blood pressure

32. Correct answer is E, no validated clues

33. Correct answer are A, B and E: Librium, Valium and Xanax
SESSION I

INTRODUCTION AND OVERVIEW
SESSION I INTRODUCTION AND OVERVIEW

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

- State the goals and objectives of the course.
- Outline the major course content.
- Outline the schedule of major course activities.
- Outline the contents and arrangement of the student manual.

During this session the student will demonstrate his or her current knowledge of basic concepts and terminology relevant to the Drug Evaluation and Classification Process.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Welcoming Remarks and Goal</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Participant Introductions</td>
<td>o Participant Led Presentations</td>
</tr>
<tr>
<td>C. Objectives</td>
<td>o Knowledge Examination</td>
</tr>
<tr>
<td>D. Overview of Content and Schedule</td>
<td>o Reading Assignments</td>
</tr>
<tr>
<td>E. Overview of Student Manual</td>
<td></td>
</tr>
<tr>
<td>F. Administrative Matters</td>
<td></td>
</tr>
<tr>
<td>G. Glossary of Terms</td>
<td></td>
</tr>
</tbody>
</table>
## Aids Lesson Plan Instructor Notes

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-1 (Title)</td>
<td><strong>INTRODUCTION AND OVERVIEW</strong></td>
<td>Total Lesson Time: Approximately 110 Minutes</td>
</tr>
<tr>
<td>I-2 (Objectives)</td>
<td></td>
<td>Display Session Title</td>
</tr>
<tr>
<td>10 Minutes</td>
<td></td>
<td>Briefly review the content, objectives and activities of this session.</td>
</tr>
<tr>
<td><strong>A. Welcoming Remarks and Goal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Welcome to the seven day DRE School.</td>
<td>Brief welcoming remarks by the lead-off instructor (not longer than one minute).</td>
</tr>
<tr>
<td></td>
<td>2. The goal of this school is simple:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To help you prevent crashes, deaths and injuries caused by drug-impaired drivers.</td>
<td>The Tennessee study was conducted by Kirby, Jackie M. (RN, MSN) and Maull, Kimball I. (MD), Division of Trauma/Critical Care, Department of Surgery, University of Tennessee Medical Center, Knoxville, Tennessee.</td>
</tr>
<tr>
<td>I-3 (Goal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Maryland Shock Trauma Center study (1985-1986)</td>
<td>Emphasize that these studies clearly show that drug impaired driving is a major problem in this country.</td>
</tr>
<tr>
<td></td>
<td>32 percent of drivers treated at the Shock Trauma Center had used marijuana prior to their crashes.</td>
<td></td>
</tr>
<tr>
<td>I-3A (MD Study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. University of Tennessee study (1988)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40 percent of drivers treated at Trauma Center for crash injuries had drugs other than alcohol in them.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
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</tr>
<tr>
<td>I-3C (NHTSA Study)</td>
<td>c. NHTSA (1992) 17.8 percent of 1,882 operators involved in fatal crashes from thirteen sites tested positive for drugs other than alcohol.</td>
<td>Instructor note: Remind students that all studies published are subject to interpretation. For more information contact NHTSA, The National Traffic Law Center, or the IACP DEC Technical Advisory Panel. Study by Terhune, Ippolito, Hendricks, etc. The 13 sampling sites were from the states of California, Massachusetts, Nevada, North Carolina, Texas, Virginia and Wisconsin. Source: Combined Drug &amp; Alcohol Use In Fatally Injured Drivers in Washington State, Journal of Forensic Sciences, Schwilke, et al 2006</td>
</tr>
<tr>
<td>I-3D (WA State Study)</td>
<td>d. The results of blood or urine tests from 370 fatally injured drivers in Washington revealed that marijuana was the most encountered drug (12 percent), followed by benzodiazepines (5 percent), cocaine (4.8 percent and Amphetamines (4.8 percent).</td>
<td></td>
</tr>
<tr>
<td>I-3E (Incidence of Drugged Driving)</td>
<td>e. In 2003, one out of six high school seniors admitted driving under the influence of drugs.</td>
<td>Source: SADD, 2003</td>
</tr>
</tbody>
</table>
f. In 2004, 10.6 million people reported driving under the influence of an illicit drug during the past year.

3. We can do something to remove drugged drivers from our roads.

a. The Drug Evaluation and Classification (DEC) Program is based on solid medical and scientific facts.

b. The validity of the Drug Evaluation and Classification (DEC) Program has been tested in carefully controlled research in both the laboratory and the field.

4. By enrolling in Drug Recognition Expert (DRE) training, you have become part of an elite international program.

a. DREs form one of the tightest knit fraternities in law enforcement.

b. DREs from many agencies and from many parts of the country work closely together to share information and other resources, and to maintain the highest standards of quality.

National Survey on Drug Use and Health (NSDUH) report: Drugged Driving Update, 2005

Point out that the students will hear more about this research later today.

Mention the various agencies represented among the instructors and the students in this school.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c. Each of you was selected to receive this training because you were recognized by your department as a skilled and dedicated law enforcement professional.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Your instructors welcome you to this school and are proud to have you here, and we're sure that you are proud to be here.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B. Introductions</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Introduction of representatives of host agencies and other dignitaries.</td>
<td>The introductions of dignitaries, and their welcoming remarks, must be kept brief: no more than 10 minutes can be devoted to this.</td>
</tr>
<tr>
<td></td>
<td>2. Introduction of faculty.</td>
<td>The lead-off instructor should mention the names and agency affiliations of all other instructors, asking each to stand as their name is called.</td>
</tr>
<tr>
<td></td>
<td>3. Students' introductions.</td>
<td>Whenever possible, instructor should consider using creative and innovative icebreaking techniques. At a minimum, instruct each student to stand and give their name, agency affiliation and experience.</td>
</tr>
<tr>
<td></td>
<td><strong>C. Objectives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. If you successfully complete this School, you will be able to:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Describe the involvement of drugs in impaired driving incidents.</td>
<td></td>
</tr>
</tbody>
</table>

I-4A (First Three)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>b. Name the seven categories of drugs and recognize their effects.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Describe and properly conduct the drug influence evaluation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Document the results of the drug influence evaluation.</td>
<td></td>
</tr>
<tr>
<td>I-4B (Next Two Objectives)</td>
<td>e. Properly interpret the results of the evaluation.</td>
<td></td>
</tr>
<tr>
<td>I-3C (Last Three Objectives)</td>
<td>g. Testify clearly and convincingly in drug evaluation cases.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>h. Maintain an up to date DRE Curriculum Vitae (C.V.).</td>
<td></td>
</tr>
</tbody>
</table>

2. Every DRE needs to be able to do these eight things.
3. Before you can be certified as a DRE, you will have to demonstrate that you can do each of these things.

Solicit students' questions about the objectives.

D. **Overview of Content and Schedule**

1. Major content topics
   
   a. Drugs in society and in vehicle operation.

Refer to wall charts in previewing the content topics.

Briefly overview the contents covered under each major topic.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>Overview of the DEC Procedures.</td>
<td>Emphasize that hands on practice is the principal learning activity of this course.</td>
</tr>
<tr>
<td>d.</td>
<td>Eye Examinations (a major component of the DEC procedures).</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Physiology and Drugs.</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>Vital signs examinations (a major component of the DEC procedures).</td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>The seven categories of drugs.</td>
<td></td>
</tr>
<tr>
<td>h.</td>
<td>The Physician's Desk Reference (PDR) and other reference sources.</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Interviewing suspects (a major component of the DEC procedures).</td>
<td></td>
</tr>
<tr>
<td>j.</td>
<td>Curriculum Vitae (C.V.) preparation and maintenance.</td>
<td></td>
</tr>
<tr>
<td>k.</td>
<td>Case preparation and testimony.</td>
<td></td>
</tr>
<tr>
<td>l.</td>
<td>Classifying a suspect (interpreting and documenting the results of an examination)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Hands-on practice sessions.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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<td>-----------------</td>
</tr>
<tr>
<td></td>
<td>a. Eye Examinations practice (Nystagmus, Lack of Convergence, pupil size and reaction to light)</td>
<td>Refer to wallchart outlining practice sessions.</td>
</tr>
<tr>
<td></td>
<td>b. Alcohol workshop (psychophysical testing practice)</td>
<td>Point out that volunteer drinkers from outside the class will be recruited for this session.</td>
</tr>
<tr>
<td></td>
<td>c. Practicing interpretation of the examination results.</td>
<td>Point out that several sessions will be devoted to this allowing the students to review drug evaluation reports and identify the probable drug category or combinations of categories.</td>
</tr>
<tr>
<td></td>
<td>d. Vital signs examinations practice (pulse, blood pressure)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Practicing administration of the drug influence evaluation.</td>
<td>Point out that several sessions will be devoted to this. In each, students will practice administering the drug influence examinations to each other. No hands on practice with actual drugged subjects is included in the classroom portion of DRE training.</td>
</tr>
<tr>
<td></td>
<td>f. Simulated drug impaired subjects examinations.</td>
<td>Point out that students will work in teams to conduct and document examinations of instructors who will be simulating the indicators of drug-impaired subjects. Solicit students' questions concerning the hands-on practice sessions.</td>
</tr>
</tbody>
</table>

3. Course schedule. Refer students to the schedule shown in their manuals.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Minutes</td>
<td><strong>E. Overview of Student Manual</strong></td>
<td>Briefly overview the schedule of sessions.</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>The student manual is the basic reference document for this course.</td>
<td>Solicit students' questions concerning the schedule.</td>
</tr>
<tr>
<td>a.</td>
<td>The manual contains a summary of presentations made by instructors throughout the classroom training.</td>
<td>Make sure each student has a copy of the student manual.</td>
</tr>
<tr>
<td>b.</td>
<td>The manual includes a set of &quot;class notes&quot; for every session in the course.</td>
<td>Point out that the student manual has a separate chapter, or section, for each session of the course.</td>
</tr>
<tr>
<td>2.</td>
<td>Students are expected to use the manual to review the material covered in class.</td>
<td>Instruct students to open their manuals to Session I, and briefly review the content of that section of the manual, to illustrate how the document is organized.</td>
</tr>
<tr>
<td>3.</td>
<td>The manual should also be used to preview the class sessions.</td>
<td>Encourage students to read the appropriate student manual sessions prior to each day's classes.</td>
</tr>
<tr>
<td>4.</td>
<td>By taking good notes, and by studying the manual carefully, students should have no trouble in passing the course.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
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</tr>
<tr>
<td>5.</td>
<td>At the conclusion of the classroom training, the student must pass the written test with a score of 80 percent or better in order to progress to the certification phase.</td>
<td>Remind students that there will be numerous quizzes during the class.</td>
</tr>
</tbody>
</table>

F. Administrative Matters

1. Logistics. (Completion of registration forms, travel vouchers, etc.)

2. Mandatory attendance at all sessions of this school.

3. Facilities. (Locations of restrooms, lunchrooms, etc.)

4. Pre-test

- Hand out pre-tests. **Emphasize** that the pre-test scores do not affect passage of this course, nor will the pre-test be a part of the student's permanent record. Allow 10 minutes for students to complete, then collect the pre-tests.

  - Point out to the students that they will find a "clean" copy of the pre-test at the end of Section I of their student's manual. Inform students to use the pre-test as a study guide while they progress through the course.
Drug Recognition Expert 7-Day School

Session I
Introduction and Overview

Introduction and Overview
Upon successfully completing this session the student will be able to:
- State the goals and objectives of the course
- Outline the major course content
- Outline the schedule of major course activities
- Outline the contents and arrangement of the student manual

Ultimate Goal of the Program
To help you prevent crashes, deaths and injuries caused by drug-impaired drivers

Incidence of Drugged Driving:

Maryland Shock Trauma Center Study (1985-1986):
32% of drivers treated at the Shock Trauma Center had used marijuana prior to their crashes

University of Tennessee Study (1988)
40% of drivers receiving emergency treatment had used drugs prior to the crash
National Highway Traffic Safety Administration (NHTSA)

1992 study revealed that 17.8% of 1,882 drivers involved in fatal crashes tested positive for drugs other than alcohol.


The results of blood and/or urine tests from 370 fatally injured drivers revealed the following drugs:

- Marijuana (12%)
- Benzodiazepines (5.1%)
- Cocaine (4.8%)
- Amphetamines (4.8%)

Incidence of Drugged Driving

- In 2003, one out of six high school seniors admitted driving under the influence of drugs (SADD, 2003)
- In 2004, 10.6 million persons reported driving under the influence of an illicit drug during the past year (NSDUH)

Classroom Training Objectives

You will become better able to:

1. Describe the involvement of drugs in impaired driving incidents
2. Name the seven drug categories and recognize their effects
3. Describe and properly conduct the drug influence evaluation

Classroom Training Objectives (Continued)

4. Document the results of the drug influence evaluation
5. Properly interpret the results of the evaluation
6. Prepare a narrative for the drug influence evaluation

Classroom Training Objectives (Continued)

7. Discuss appropriate procedures for testifying in typical drug evaluation and classification cases
8. Prepare and maintain a relevant and up-to-date Curriculum Vitae (C.V.)
QUESTIONS?
GLOSSARY OF TERMS

ACCOMMODATION REFLEX
The adjustment of the eyes for viewing at various distances. Meaning the pupils will automatically constrict as objects move closer and dilate as objects move further away.

ADDITION
Habitual, psychological, and physiological dependence on a substance beyond one’s voluntary control.

ADDITIVE EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an additive effect if they both affect the indicator in the same way. For example, cocaine elevates pulse rate and PCP also elevates pulse rate. The combination of cocaine and PCP produces an additive effect on pulse rate.

AFFERENT NERVES
See: "Sensory Nerves."

ALKALOID
A chemical that is found in, and can be physically extracted from, some substance. For example, morphine is a natural alkaloid of opium. It does not require a chemical reaction to produce morphine from opium.

ANALGESIC
A drug that relieves or allays pain.

ANALOG (of a drug)
An analog of a drug is a chemical that is very similar to the drug, both in terms of molecular structure and in terms of psychoactive effects. For example, the drug Ketamine is an analog of PCP.

ANESTHETIC
A drug that produces a general or local insensibility to pain and other sensation.

ANTAGONISTIC EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an antagonistic effect if they affect the indicator in opposite ways. For example, heroin constricts pupils while...
cocaine dilates pupils. The combination of heroin and cocaine produces an antagonistic effect on pupil size. Depending on how much of each drug was taken, and on when they were taken, the suspect's pupils could be constricted, or dilated, or within the normal range of size.

ARRHYTHMIA
An abnormal heart rhythm.

ARTERY
The strong, elastic blood vessels that carry blood away the heart.

ATAXIA
A blocked ability to coordinate movements. A staggering walk and poor balance may be caused by damage to the brain or spinal cord. This can be the result of trauma, birth defect, infection, tumor, or drug use.

AUTONOMIC NERVE
A motor nerve that carries messages to the muscles and organs that we do not consciously control. There are two kinds of autonomic nerves, the sympathetic nerves and parasympathetic nerves.

AXON
The part of a neuron (nerve cell) that sends out a neurotransmitter.

BAC
(Blood Alcohol Concentration) - The percentage of alcohol in a person's blood.

BrAC
(Breath Alcohol Concentration) - The percentage of alcohol in a person's blood as measured by a breath testing device.

BLOOD PRESSURE
The force exerted by blood on the walls of the arteries. Blood pressure changes continuously, as the heart cycles between contraction and expansion.

BRADYCARDIA
Abnormally slow heart rate; pulse rate below the normal range.

BRADYPNEA
Abnormally slow rate of breathing.

BRUXISM
Grinding the teeth. This behavior is often seen in persons who are under the influence of cocaine or other CNS stimulants.
CANNABIS
1. One of the seven drug categories. Cannabis includes marijuana, hashish, hash oil, and marinol.

2. Several species of plants from which marijuana and related products are made (e.g., Cannabis Sativa and Cannabis Indicia).

CARBOXY THC
A metabolite of THC (tetrahydrocannabinol).

CHEYNE-STOKES RESPIRATION
Abnormal pattern of breathing. Marked by breathlessness and deep, fast breathing.

CNS (Central Nervous System)
A system within the body consisting of the brain, the brain stem, and the spinal cord.

CNS DEPRESSANTS
One of the seven drug categories. CNS Depressants include alcohol, barbiturates, anti-anxiety tranquilizers, and numerous other drugs.

CNS STIMULANTS
One of the seven drug categories. CNS Stimulants include Cocaine, the Amphetamines, Ritalin, Preludin, and numerous other drugs.

CONJUNCTIVITIS
An inflammation of the mucous membrane that lines the inner surface of the eyelids caused by infection, allergy, or outside factors. May be bacterial or viral. Persons suffering from conjunctivitis may show symptoms in one eye only. This condition is commonly referred to as "pink eye", a condition that could be mistaken for the bloodshot eyes produced by alcohol or Cannabis.

CONVERGENCE
The "crossing" of the eyes that occurs when a person is able to focus on a stimulus as it is pushed slowly toward the bridge of their nose. (See, also, "Lack of Convergence".)

CRACK/ROCK
Cocaine base, appears as a hard chunk form resembling pebbles or small rocks. It produces a very intense, but relatively short duration "high".
CURRICULUM VITAE
A written summary of a person's education, training, experience, noteworthy achievements and other relevant information about a particular topic.

CYCLIC BEHAVIOR
A manifestation of impairment due to certain drugs, in which the suspect alternates between periods (or cycles) of intense agitation and relative calm. Cyclic behavior, for example, sometimes will be observed in persons under the influence of PCP.

DELIRIUM
A brief state characterized by incoherent excitement, confused speech, restlessness, and possible hallucinations.

DENDRITIC
The part of a neuron (nerve cell) that receives a neurotransmitter.

DIACETYL MORPHINE
The chemical name for Heroin.

DIASTOLIC
The lowest value of blood pressure. The blood pressure reaches its diastolic value when the heart is fully expanded, or relaxed (Diastole).

DIPLOPIA
Double vision.

DISSOCIATIVE ANESTHETICS
One of the seven drug categories. Includes drugs that inhibits pain by cutting off or disassociating the brain's perception of pain. PCP and it's analogs are considered Dissociative Anesthetics.

DIVIDED ATTENTION
Concentrating on more than one thing at a time. The four psychophysical tests used by DREs require the suspect to divide attention.

DOWNSIDE EFFECT
An effect that may occur when the body reacts to the presence of a drug by producing hormones or neurotransmitters to counteract the effects of the drug consumed.

DRUG
Any substance, which when taken into the human body, can impair the ability of the person to operate a vehicle safely.
DYSARTHIA
Slurred speech. Difficult, poorly articulated speech.

DYSPNEA et. al.
Shortness of breath.

DYSMETRIA
An abnormal condition that prevents the affected person from properly estimating distances linked to muscular movements.

DYSPHORIA
A disorder of mood. Feelings of depression and anguish.

EFFERENT NERVES
See: "Motor Nerves".

ENDOCRINE SYSTEM
The network of glands that do not have ducts and other structures. They secrete hormones into the blood stream to affect a number of functions in the body.

EXPERT WITNESS
A person skilled in some art, trade, science or profession, having knowledge of matters not within knowledge of persons of average education, learning and experience, may assist a jury in arriving at a verdict by expressing an opinion on a state of facts shown by the evidence and based upon his or her special knowledge. (NOTE: Only the court can determine whether a witness is qualified to testify as an expert.)

FLASHBACK
A vivid recollection of a portion of an hallucinogenic experience. Essentially, it is a very intense daydream. There are three types: (1) emotional -- feelings of panic, fear, etc.; (2) somatic -- altered body sensations, tremors, dizziness, etc.; and (3) perceptual -- distortions of vision, hearing, smell, etc.

GARRULITY
Chatter, rambling or pointless speech. Talkative.

HALLUCINATION
A sensory experience of something that does not exist outside the mind, e.g., seeing, hearing, smelling, or feeling something that isn't really there. Also, having a distorted sensory perception, so that things appear differently than they are.
HALUCINOGENS
One of the seven drug categories. Hallucinogens include LSD, MDMA, peyote, psilocybin, and numerous other drugs.

HASHISH
A form of cannabis made from the dried and pressed resin of a marijuana plant.

HASH OIL
Sometimes referred to as “marijuana oil” it is a highly concentrated syrup-like oil extracted from marijuana. It is normally produced by soaking marijuana in a container of solvent, such as acetone or alcohol for several hours and after the solvent has evaporated, a thick syrup-like oil is produced with a THC content generally ranging from 8 to 20 percent.

HEROIN
A powerful and widely-abused narcotic analgesic that is chemically derived from morphine. The chemical, or generic name of heroin is "diacetyl morphine".

HIPPUS
A rhythmic pulsating of the pupils of the eyes, as they dilate and constrict within fixed limits.

HOMEOSTASIS
The dynamic balance, or steady state, involving levels of salts, water, sugars, and other materials in the body's fluids.

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

HORMONES
Chemicals produced by the body's endocrine system that are carried through the blood stream to the target organ. They exert great influence on the growth and development of the individual, and that aid in the regulation of numerous body processes.

HYDROXY THC
A metabolite of THC (tetrahydrocannabinol).

HYPERFLEXIA
Exaggerated or over extended motions.

HYPERGLYCEMIA
Excess sugar in the blood.
HYPERPNEA
A deep, rapid or labored breathing.

HYPERPYREXIA
Extremely high body temperature.

HYPERREFLEXIA
A neurological condition marked by increased reflex reactions.

HYPERTENSION
Abnormally high blood pressure. Do not confuse this with hypotension.

HYPOGLYCEMIA
An abnormal decrease of blood sugar levels.

HYPOPNEA
Shallow or slow breathing.

HYPOTENSION
Abnormally low blood pressure. Do not confuse this with hypertension.

HYPOTHERMIA
Decreased body temperature.

ICE
A crystalline form of methamphetamine that produces a very intense and fairly long-lasting "high".

INHALANTS
One of the seven drug categories. The inhalants include volatile solvents (such as glue and gasoline), aerosols (such as hair spray and insecticides) and anesthetic gases (such as nitrous oxide).

INSUFFLATION
See "snorting".

INTEGUMENTARY SYSTEM
The skin and accessory structures, hair and nails. Functions include protection, maintenance of body temperature, excretion of waste, and sensory perceptions.

INTRAOCULAR
"Within the eyeball".
KOROTKOFF SOUNDS
A series of distinct sounds produced by blood passing through an artery, as the external pressure on the artery drops from the systolic value to the diastolic value.

LACK OF CONVERGENCE
The inability of a person's eyes to converge, or "cross" as the person attempts to focus on a stimulus as it is pushed slowly toward the bridge of his or her nose.

MARIJUANA
Common term for the Cannabis Sativa plant. Usually refers to the dried leaves of the plant. This is the most common form of the cannabis category.

MARINOL
A drug containing a synthetic form of THC (tetrahydrocannabinol). Marinol belongs to the cannabis category of drugs, but marinol is not produced from any species of cannabis plant.

METABOLISM
The sum of all chemical processes that take place in the body as they relate to the movements of nutrients in the blood after digestion, resulting in growth, energy, release of wastes, and other body functions. The process by which the body, using oxygen, enzymes and other internal chemicals, breaks down ingested substances such as food and drugs so they may be consumed and eliminated. Metabolism takes place in two phases. The first step is the constructive phase (anabolism) where smaller molecules are converted to larger molecules. The second steps is the destructive phase (catabolism) where large molecules are broken down into smaller molecules.

METABOLITE
A chemical product, formed by the reaction of a drug with oxygen and/or other substances in the body.

MIOSIS
Abnormally constricted pupils.

MOTOR NERVES
Nerves that carry messages away from the brain, to be body's muscles, tissues, and organs. Motor nerves are also known as efferent nerves.

MUSCULAR HYPERTONICITY
Rigid muscle tone.

MYDRIASIS
Abnormally dilated pupils.
NARCOTIC ANALGESICS
One of the seven drug categories. Narcotic analgesics include opium, the natural alkaloids of opium (such as morphine, codeine, and thebaine), the derivatives of opium (such as heroin, dilaudid, oxycodone, percodan and hycodan), and the synthetic narcotics (such as demerol and numorphan).

NERVE
A cord-like fiber that carries messages either to or from the brain. For drug evaluation and classification purposes, a nerve can be pictured as a series of "wire-like" segments, with small spaces or gaps between the segments.

NEURON
A nerve cell. The basic functional unit of a nerve. It contains a nucleus within a cell body with one or more axons and dendrites.

NEUROTRANSMITTER
Chemicals that pass from the axon of one nerve cell to the dendrite of the next cell, and that carry messages across the gap between the two nerve cells.

NULL EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce a null effect if **neither** of them affects that indicator. For example, PCP does not affect pupil size, and alcohol does not affect pupil size. The combination of PCP and alcohol produces a null effect on pupil size.

NYSTAGMUS
An involuntary jerking of the eyes.

"ON THE NOD"
A semiconscious state of deep relaxation. Typically induced by impairment due to Heroin or other narcotic analgesic. The suspect's eyelids droop, and chin rests on the chest. Suspect may appear to be asleep, but can be easily aroused and will respond to questions.

OVERLAPPING EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an overlapping effect if one of them affects the indicator but the other doesn't. For example, cocaine dilates pupils while alcohol doesn't affect pupil size. The combination of cocaine and alcohol produces an overlapping effect on pupil size: the combination will cause the pupils to dilate.

PALLOR
An abnormal paleness or lack of color in the skin.
PARANOIA
Mental disorder characterized delusions and the projection of personal conflicts, that are ascribed to the supposed hostility of others.

PARAPHERNALIA
Drug paraphernalia are the various kinds of tools and other equipment used to store, transport or ingest a drug. Hypodermic needles, small pipes, bent spoons, etc., are examples of drug paraphernalia. The singular form of the word is "paraphernalium". For example, one hypodermic needle would be called a "drug paraphernalium".

PARASYMPATHETIC NERVE
An autonomic nerve that commands the body to relax and to carry out tranquil activities. The brain uses parasympathetic nerves to send "at ease" commands to the muscles, tissues, and organs.

PARASYMPATHOMIMETIC DRUGS
Drugs that mimic neurotransmitter associated with the parasympathetic nerves. These drugs artificially cause the transmission of messages that produce lower blood pressure, drowsiness, etc.

PDR (Physician's Desk Reference)
A basic reference source for drug recognition experts. The PDR provides detailed information on the physical appearance and psychoactive effects of licitly-manufactured drugs.

PHENCYCLIDINE
A contraction of PHENYL CYCLOHEXYL PIPERIDINE, or PCP. Formerly used as a surgical anesthetic, however, it has no current legitimate medical use in humans.

PHENYL CYCLOHEXYL PIPERIDINE (PCP)
Often called "phencyclidine" or “PCP”, it is a specific drug belonging to the Dissociative Anesthetics category.

PHYSIOLOGY
The study of living organisms and the changes that occur during activity.

PILOERECTION
Literally, "hair standing up", or goose bumps. This condition of the skin is often observed in persons who are under the influence of LSD.

POLY DRUG USE
Ingesting drugs from two or more drug categories.
PSYCHEDELIC
A mental state characterized by a profound sense of intensified or altered sensory perception sometimes accompanied by hallucinations.

PSYCHOPHYSICAL TESTS
Methods of investigating the mental (psycho-) and physical characteristics of a person suspected of alcohol or drug impairment. Most psychophysical tests employ the concept of divided attention to assess a suspect's impairment.

PSYCHOTOGNETIC
Literally, "creating psychosis" or "giving birth to insanity". A drug is considered to be psychotogenic if persons who are under the influence of the drug become insane, and remain so after the drug wears off.

PSYCHOTOMIMETIC
Literally, "mimicking psychosis" or "impersonating insanity". A drug is considered to be psychotomimetic if persons who are under the influence of the drug look and act insane while they are under the influence.

PTOSIS
Droopy eyelids.

PULSE
The expansion and relaxation of the walls of an artery, caused by the surging flow of blood.

PULSE RATE
The number of expansions of an artery per minute.

PUPILLARY LIGHT REFLEX
The pupils of the eyes will constrict and dilate depending on changes in lighting.

REBOUND DILATION
A period of constriction followed by dilation with a change equal to or greater than 2 mm.

RESTING NYSTAGMUS
Jerking of the eyes as they look straight ahead.

SCLERA
A dense white fibrous membrane that, with the cornea, forms the external covering of the eyeball (i.e., the white part of the eye).
SENSORY NERVES
Nerves that carry messages to the brain, from the various parts of the body, including notably the sense organs (eyes, ears, etc.). Sensory nerves are also known as afferent nerves.

SINSEMILLA
The unpollenated female cannabis plant, having a relatively high concentration of THC.

SFST
Standardized Field Sobriety Testing. There are three SFSTs, namely Horizontal Gaze Nystagmus (HGN), Walk and Turn, and One Leg Stand. Based on a series of controlled laboratory studies, scientifically validated clues of alcohol impairment have been identified for each of these three tests. They are the only Standardized Field Sobriety Tests for which validated clues have been identified.

SNORTING
One method of ingesting certain drugs. Snorting requires that the drug be in powdered form. The user rapidly draws the drug up into the nostril, usually via a paper or glass tube. Snorting is also known as insufflation.

SPHYGMOMANOMETER
A medical device used to measure blood pressure. It consists of an arm or leg cuff with an air bag attached to a tube and a bulb for pumping air into the bag, and a gauge for showing the amount of air pressure being pressed against the artery.

STETHOSCOPE
A medical instrument used, for drug evaluation and classification purposes, to listen to the sounds produced by blood passing through an artery.

SYMPATHETIC NERVE
An autonomic nerve that commands the body to react in response to excitement, stress, fear, etc. The brain uses sympathetic nerves to send "wake up calls" and "fire alarms" to the muscles, tissues and organs.

SYMPATHOMIMETIC DRUGS
Drugs that mimic the neurotransmitter associated with the sympathetic nerves. These drugs artificially cause the transmission of messages that produce elevated blood pressure, dilated pupils, etc.

SYNAPSE (or Synaptic Gap)
The gap or space between two neurons (nerve cells).
SYNESTHESIA
A sensory perception disorder, in which an input via one sense is perceived by the brain as an input via another sense. An example of this would be a person “hearing” a phone ring and “seeing” the sound as a flash of light. Synesthesia sometimes occurs with persons under the influence of hallucinogens.

SYSTOLIC
The highest value of blood pressure. The blood pressure reaches its systolic value when the heart is fully contracted (systole), and blood is sent surging into the arteries.

TACHYCARDIA
Abnormally rapid heart rate; pulse rate above the normal range.

TACHYPNEA
Abnormally rapid rate of breathing.

THC (Tetrahydrocannabinol)
The principal psychoactive ingredient in drugs belonging to the cannabis category.

TOLERANCE
An adjustment of the drug user’s body and brain to the repeated presence of the drug. As tolerance develops, the user will experience diminishing psychoactive effects from the same dose of the drug. As a result, the user typically will steadily increase the dose he or she takes, in an effort to achieve the same psychoactive effect.

TRACKS
Scar tissue usually produced by repeated injection of drugs, via hypodermic needle, along a segment of a vein.

VERTICAL GAZE NYSTAGMUS
An involuntary jerking of the eyes (up-and-down) which occurs as the eyes are held at maximum elevation.

VOIR Dire
A french expression literally meaning "to see, to say". Loosely, this would be rendered in English as "To seek the truth", or "to call it as you see it". In a law or court context, one application of voir dire is to question a witness to assess his or her qualifications to be considered an expert in some matter pending before the court.
VOLUNTARY NERVE
A motor nerve that carries messages to a muscle that we consciously control.

WITHDRAWAL
This occurs in someone who is physically addicted to a drug when he or she is deprived of the drug. If the craving is sufficiently intense, the person may become extremely agitated, and even physically ill.
SESSION II

DRUGS IN SOCIETY AND IN VEHICLE OPERATION
SESSION II   DRUGS IN SOCIETY AND IN VEHICLE OPERATION

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

- Define the term "drug" in the context of this course.
- Name the seven major categories of drugs that are relevant to the Drug Evaluation and Classification program.
- State in approximate, quantitative terms the incidence of drug use among various segments of the American public.
- State in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and other driving incidents.
- Correctly answer the “topics for study” questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
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<tbody>
<tr>
<td>A. Definition and Categories of Drugs</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Drugs and Driving</td>
<td>o Reading Assignments</td>
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</table>
II-1 (Title)

**DRUGS IN SOCIETY AND IN VEHICLE OPERATION**

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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>II-2A&amp;B</td>
<td>(Objectives)</td>
<td>Total Lesson Time: Approximately 50 Minutes</td>
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<td>Display Session Title</td>
<td>Display Session Title</td>
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<td></td>
<td>Briefly review the objectives, content and activities of this session.</td>
<td>Briefly review the objectives, content and activities of this session.</td>
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</table>

II-3 (Definition of "Drug")

A. **Definition and Categories of Drugs**

1. What do we mean by the word "drug"?
   - Medicines? Are all drugs medicines? Are all medicines drugs?
   - Narcotics? Are all drugs narcotics?
   - Habit forming substances? Are all drugs habit forming? Are all habit forming substances drugs?

2. A simple, law enforcement oriented definition.
   "Any substance, which when taken into the human body, can impair the ability of the person to operate a vehicle safely."

Instructor: If this has been covered in the Pre-School, pose this question “What is our working definition of the word ‘drug’?” and proceed to number 2.

Pose this question to the students.

Solicit several responses.

This definition is derived from the California Vehicle Code.

Point out that this definition excludes many substances that physicians, chemists, etc. might consider to be "drugs", e.g.,
3. Within this simple, law enforcement oriented definition, there are seven categories of drugs.

   a. Each category consists of substances that impair a person's ability to drive.

   b. The categories differ from one another in terms of how they impair driving ability and in terms of the kinds of impairment they cause.

   c. Because the categories produce different types of impairment, they generate different signs and symptoms.

   d. With training and practice, you will be able to recognize the different signs of drug influence and determine which category is causing the impairment you observe in a subject.

   **Ask** students: "What are the seven categories of drugs?"

   **Write** the names of the categories on the dry erase board or flip-chart as they are mentioned by the students.
### Aids Lesson Plan

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<tbody>
<tr>
<td>II-4 (Depressants)</td>
<td>4. Central Nervous System Depressants.</td>
<td><strong>Point out</strong> that tens of millions of prescriptions for such drugs are written in this country each year. Source: The USDUH Report. (December 12, 2003).</td>
</tr>
</tbody>
</table>

#### a. The category of CNS Depressants includes some of the most commonly abused drugs.
- **o** Alcohol remains the most familiar drug. In 2002, 51 percent of persons aged 12 or older were current drinkers.

#### b. Depressants slow down the operation of the Central Nervous System (i.e. the brain, brain stem and spinal cord).
- **o** cause the user to react more slowly.
- **o** cause the user to process information more slowly.
- **o** relieve anxiety and tension.
- **o** induce sedation, drowsiness and sleep.
- **o** in high enough doses, CNS Depressants will produce general anesthesia.
- **o** in very high doses, induce coma and death.
- **i.e.** depress the brain's ability to sense pain.
5. Central Nervous System Stimulants

a. CNS Stimulants constitute another widely abused category of drugs.
   - There appear to be more than two (2) million Cocaine users in the U.S.  
   - Cocaine is one of the most frequently reported drugs in overdose cases treated at hospital emergency rooms.  
     Note: Estimates of drug use vary widely, especially for illicit drugs such as Cocaine, Methamphetamine, etc.
   - In 2003, 20.8 million Americans aged 12 or older admitted using prescription-type Stimulants non-medically at least once in their lifetime.  
     Source: February 2005 National Survey on Drug Use and Health.
   - More than 12 million people age 12 or older (5.3 %) reported they had used methamphetamine at least once in their lifetime.  
     Source: 2002 National Survey on Drug Use and Health.

b. CNS Stimulants speed up the operation of the central nervous system, and of the various bodily functions controlled by the Central Nervous System.
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<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
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<td></td>
<td>o cause the user to become hyperactive, extremely talkative.</td>
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<td></td>
<td>o speech may become rapid and repetitive.</td>
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<td></td>
<td>o heart rate increases.</td>
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<td></td>
<td>o blood pressure increases.</td>
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<tr>
<td></td>
<td>o body temperature rises, user may become excessively sweaty.</td>
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<td></td>
<td>o induce emotional excitement, restlessness, irritability.</td>
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<td></td>
<td>o can induce cardiac arrhythmia (abnormal beating of the heart), cardiac seizures and death.</td>
<td>Remind students of well-known athletes and others who have died because of Cocaine abuse.</td>
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<tr>
<td>6.</td>
<td>Hallucinogens</td>
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<tr>
<td></td>
<td>a. Hallucinogens are also widely abused.</td>
<td>Point out that LSD and Peyote are only two examples of Hallucinogens. There are many other Hallucinogens.</td>
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<tr>
<td></td>
<td>b. In recent years, significant increases in the abuse of both LSD and &quot;Ecstasy&quot; (MDMA) have been reported.</td>
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II-6
(Hallucinogens)
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<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>c.</td>
<td>Hallucinogens create perceptions that differ from reality.</td>
<td>Clarification: Hallucinogens confuse the Central Nervous System (as well as speeding it up, like CNS Stimulants).</td>
</tr>
<tr>
<td>d.</td>
<td>These perceptions are often very distorted, so that the user sees, hears and smells things in a way quite different from how they really look, sound and smell.</td>
<td></td>
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<tr>
<td>e.</td>
<td>Hallucinogens cause the nervous system to send strange or false signals to the brain.</td>
<td>Point out that this mixing of the senses is called Synesthesia.</td>
</tr>
<tr>
<td></td>
<td>o Produce sights, sounds, odors, feelings and tastes that aren't real.</td>
<td>Point out that, with all of these false, and distorted perceptions, a person under the influence of hallucinogens would be a very unsafe driver.</td>
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<tr>
<td></td>
<td>o Induce a temporary condition very much like psychosis or insanity.</td>
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<td></td>
<td>o Can create a &quot;mixing&quot; of sensory modalities, so that the user &quot;hears colors&quot;, &quot;sees music&quot;.</td>
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</tbody>
</table>

### 7. Dissociative Anesthetics

II-7 (Dissoc. Anesthetics)

| a.   | PCP and it's analogs and Dextromethorphan are examples of Dissociative Anesthetics. PCP is considered by the medical community to be a Hallucinogen. However, because of the | Point out that this category was changed from PCP to Dissociative Anesthetics in 2005. |
|      | | Point out that people under the influence of Dissociative Anesthetics may exhibit a combination of the signs associated with Hallucinogens, CNS Stimulants and Depressants. |
symptomology it presents, it is in a separate category.

b. PCP is a synthetic drug, i.e. it does not occur naturally but must be produced in a laboratory-like setting.

Phencyclidine is a short form of the chemical name Phenyl Cyclohexyl Piperidine, from which we get the abbreviation "PCP".

Point out that PCP has many analogs, or "chemical cousins" that are very similar to PCP in chemical structure, and that produce essentially the same effects.

The Dissociative Anesthetic category consists of PCP and its various analogs.

c. PCP has some effects that resemble the effects of other categories.

d. PCP is similar to CNS Depressants in that it depresses brain wave activity.

- slows down thought
- slows reaction time
- slows verbal responses

e. But PCP is similar to CNS Stimulants in that it activates the parts of the brain that control emotions, the heart and the other autonomic systems.

- heart rate increases
- blood pressure increases
- adrenalin production increases
- body temperature rises
- muscles become rigid
<table>
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<tr>
<td>f.</td>
<td>And PCP is similar to Hallucinogens in that it distorts or &quot;scrambles&quot; signals received by the brain.</td>
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<tr>
<td></td>
<td>o sight, hearing, taste, smell and touch may all be distorted</td>
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<td></td>
<td>o user's perception of time and space may be distorted</td>
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<td>o user may become paranoid, feel isolated and depressed</td>
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<td>o user may develop a strong fear of and preoccupation with death</td>
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<td></td>
<td>o user may become unpredictably violent</td>
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<td>g.</td>
<td>PCP is also a very powerful pain killer, or anesthetic.</td>
<td>Point out that the reason PCP is a Dissociative Anesthetic is because it &quot;separates&quot; the user from any sensation of pain without making him or her unconscious.</td>
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<tr>
<td>h.</td>
<td>Analogs of PCP include: Ketamine, Ketalar and Ketajet.</td>
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<td>8.</td>
<td>Narcotic Analgesics</td>
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<tr>
<td>a.</td>
<td>There are two subcategories of Narcotic Analgesics.</td>
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</table>
Aids Lesson Plan Instructor Notes

o Opiates are derivatives of Opium.

o Synthetics are produced chemically in the laboratory. The synthetics are not derived in any way from Opium, but produce similar effects.

b. The word "Analgesic" means pain killer. All of the drugs in this category reduce the person's reaction to pain.

c. Heroin is one of the most commonly abused of the Narcotic Analgesics.

d. Heroin is highly addictive.

o many addicts support their habit by stealing property and converting it to cash.

e. In addition to reducing pain, Narcotic Analgesics produce euphoria, drowsiness, apathy, lessened physical activity and sometimes impaired vision.

f. Persons under the influence of Narcotic Analgesics often pass into a semi-conscious type of sleep or near-sleep.

o they often are sufficiently alert to respond to questions effectively.

Point out that Morphine and Codeine are examples of Opiates.

Point out that Methadone and Numorphan are examples of Synthetic Narcotics.

Point out that this condition is often called being "on the nod".
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<td></td>
<td>g. Higher doses of Narcotic Analgesics can induce coma, respiratory failure and death.</td>
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<td>9. Inhalants</td>
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<tr>
<td>II-9</td>
<td>a. Inhalants are the fumes of certain substances. Inhalant abuse is on the rise.</td>
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<tr>
<td>(Inhalants)</td>
<td>b. These substances are found in many common products.</td>
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<td></td>
<td>o gasoline</td>
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<td>o oil-based paints</td>
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<td>o glue</td>
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<td>o aerosol cans</td>
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<td></td>
<td>o varnish remover</td>
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<td>o cleaning fluids</td>
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<td></td>
<td>o etc.</td>
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<td></td>
<td>c. Different Inhalants produce different effects.</td>
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<td></td>
<td>o many produce effects similar to those of CNS Depressants.</td>
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<td></td>
<td>o a few produce Stimulant-like effects.</td>
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<td></td>
<td>o some produce Hallucinogenic effects.</td>
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<td></td>
<td>d. The Inhalant abuser's attitude and demeanor can vary from inattentive, stuporous and passive to irritable, violent and dangerous.</td>
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<td></td>
<td>e. The abuser's speech will often be slow, thick and slurred.</td>
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<tr>
<td>Aids</td>
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<td>Instructor Notes</td>
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<tr>
<td>II-10 (Cannabis)</td>
<td>10. Cannabis</td>
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<td>a. The category &quot;Cannabis&quot; includes the various forms and products of the Cannabis Sativa plant and other species of Cannabis plants.</td>
<td>Write &quot;Cannabis Sativa&quot; on the dry erase board or flip chart.</td>
</tr>
<tr>
<td></td>
<td>b. The primary active ingredient in Cannabis products is the substance known as &quot;Delta-9 Tetrahydrocannabinol&quot;, or &quot;THC&quot;.</td>
<td>Write &quot;$\Delta$-9 THC&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>c. Apart from alcohol, Marijuana is the most commonly abused drug in this country.</td>
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<td></td>
<td>d. In a household survey in 2002, marijuana was listed as the most common illicit used drug in the U.S. There were 14.6 million users of marijuana in 2002.</td>
<td>Source: National Household Drug Use and Health Survey, 2002</td>
</tr>
<tr>
<td></td>
<td>e. Cannabis appears to interfere with the attention process. Drivers under the influence of Marijuana often do not pay attention to their driving.</td>
<td>Point out that divided attention Standardized Field Sobriety Tests usually disclose some of the best evidence of Cannabis impairment.</td>
</tr>
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<td></td>
<td>f. Cannabis also produces a distortion of the user's perception of time, an increased heart rate (often over 100 beats per minute) and a reddening of the eyes.</td>
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</tbody>
</table>
11. Drug Combinations

a. Many drug users appear to be "chemical gluttons". They often ingest drugs from two or more drug categories.

b. The term for this is "polydrug use"  
   Note: "poly" is the Greek prefix for "many".

c. Some very common examples of polydrug use include:
   - Alcohol with virtually any other drug.
   - Marijuana and PCP  
     Point out that a common way to ingest PCP is to sprinkle it on a Marijuana "joint" and smoke it.
   - Cocaine and Heroin  
     Sometimes called a "speedball".
   - Heroin and Amphetamine  
     Sometimes called a," poor man's speedball".
   - Heroin and PCP  
     Sometimes called a "fireball".
   - "Crack" Cocaine and PCP  
     This is sometimes called a "space base".
   - "Crack" Cocaine and Marijuana  
     Sometimes called a "primo".
   - "Crack" and Methamphetamine  
     Sometimes called "croak".
### Aids Lesson Plan

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</table>
| d. | Sometimes, people take two different drugs (such as Heroin and Cocaine) that produce some opposite effects. | **Example:**  
  o Heroin tends to lower blood pressure.  
  o Cocaine tends to elevate blood pressure |
| e. | Different drug combinations may produce unique, interactive effects. | **Write on dry erase board or flipchart:** "Polydrug use unique, interactive effects." |
| f. | When a person has ingested multiple drugs, that person will experience multiple drug effects. | **Note,** however, that under proper medical supervision, specific drugs often are used to reverse overdose conditions. |
| g. | However, it is important to bear in mind that, in a polydrug situation, some of the signs of a particular drug may not be evident even though the person is under the influence of that drug. |   |

### B. Incidence and Characteristics of Drug Use in America

1. In 2004, 19.1 million Americans (7.9% of the population) aged 12 years or older were current illicit drug users.  
   Source: Results From the 2004 National Survey on Drug Use and Health: National Findings

2. Marijuana was the most commonly used illicit drug in 2004, with 14.6 million.  
   Source: Results From the 2004 National Survey on Drug Use and Health: National Findings

3. In 2004, 6.0 million people were users of psychotherapeutic drugs taken non-medically.  
   Source: Results From the 2004 National Survey on Drug Use and Health: National Findings

4. In 2004, an estimated 2 million persons were current Cocaine users.  
   Source: Results From the 2004 National Survey on Drug Use and Health: National Findings
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<th>Instructor Notes</th>
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<td>5. In 2004, there were an estimated 166,000 users of Heroin.</td>
<td>Source: Results From the 2004 National Survey on Drug Use and Health: National Findings</td>
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<tr>
<td></td>
<td>6. In 2004, 1.9 million people aged 12 or older used OxyContin non-medically.</td>
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<tr>
<td>II-13 (Drugged Driving Facts)</td>
<td><strong>C. Incidence of Drug Impaired Driving</strong></td>
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<td></td>
<td>The exact incidence of drugged driving is not actually known. However, the following facts are known about this highway safety problem:</td>
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<td>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.</td>
<td>Source: Compton, R. and Anderson, T.. The Incidence of Driving Under the Influence of Drugs: 1985. National Highway Traffic Safety Administration, 1985.</td>
</tr>
<tr>
<td>II-14 (CA Male Drivers)</td>
<td></td>
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<td></td>
<td>c. Fact: University of Tennessee (1988) found 40% of crash injured drivers had drugs other than alcohol in them.</td>
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<td>Instructor Notes</td>
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<td>d.</td>
<td><strong>Fact:</strong> A study completed in 2000, of 880 crash-injured drivers in Rochester, New York, found that 33% had used drugs.</td>
<td>Research Accident Investigation Team, Department of Community and Preventative Medicine, University of Rochester</td>
</tr>
<tr>
<td>e.</td>
<td><strong>Fact:</strong> A NHTSA study of various locations in seven states revealed that alcohol was present in more than 50% of the drivers. Drugs other than alcohol were present in 18% of the drivers.</td>
<td>Source: NHTSA; 1993 Traffic Tech</td>
</tr>
<tr>
<td>3.</td>
<td>The facts are unmistakable:</td>
<td>NOTE: Consult national and local resources for updated data on drugs and driving.</td>
</tr>
<tr>
<td>a.</td>
<td>Drug use is common among many Americans.</td>
<td>Solicit students' comments and questions about drugs in society and vehicle operation</td>
</tr>
<tr>
<td>b.</td>
<td>So is drug impaired driving.</td>
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</table>
Topics for Study

1. What does the term "drug" mean, as it is used in this course?

   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. What are the seven categories of drugs? To which category does alcohol belong? To which category does cocaine belong?

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

3. What does "polydrug use" mean?

   Ingesting drugs from two or more drug categories.

4. What is a "Speedball"? What is "Space Base"?

   Cocaine and Heroin; Crack and PCP

5. In the Monitoring the Future National Survey from 2003, what ratio of high school seniors admitted driving under the influence of drugs?

   1 out of 6
Session II

Drugs in Society and in Vehicle Operation

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

- Define the term “drug” in the context of this course
- Name the seven major categories of drugs that are relevant to the Drug Evaluation and Classification program

Drugs in Society and in Vehicle Operation (Continued)

- State in approximate, quantitative terms the incidence of drug use among various segments of the American public
- State in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and other driving incidents
- Correctly answer the “topics for study” questions at the end of this session

Working Definition of “Drug”

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

Central Nervous System Depressants

Examples:
- Alcohol
- Barbiturates
- Anti-Depressants
- Anti-Anxiety Tranquilizers

Central Nervous System Stimulants

Examples:
- Amphetamine
- Cocaine
- Methamphetamine
- Ritalin
**Hallucinogens**

Examples:
- LSD
- MDMA (Ecstasy)
- Peyote
- Psilocybin

**Dissociative Anesthetics**

Examples:
- Dextromethorphan
- Ketamine
- PCP (Phenyl Cyclohexyl Piperidine)

**Narcotic Analgesics**

Examples:
- Codeine
- Demerol
- Heroin
- Methadone
- Morphine
- OxyContin

**Inhalants**

Examples:
- Volatile Solvents
  (Glue, Gasoline, Paint, etc.)
- Aerosols
  (Hairspray, Insecticides, etc.)
- Anesthetic Gases
  (Nitrous Oxide, Amyl Nitrite, etc.)

**Cannabis**

- Active ingredient:
  - Tetrahydrocannabinol (THC)
- Examples:
  - Marijuana
  - Hashish
  - Marinol

**Drug Combinations**

+
Incidence and Characteristics of Drug Use in America

- In 2004, 19.1 million Americans aged 12 years or older, were current illicit drug users
- Marijuana was the most commonly used illicit drug in 2004, with 14.6 million users
- In 2004, 6.0 million people were users of psychotherapeutic drugs taken nonmedically

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

Drug Impaired Driving Facts

- Fact: About 11 million illicit drug users admitted driving after using an illicit drug in 2002
- Fact: In 2002, between 10 and 18% of young drivers age 17 to 21 years reported driving under the influence of an illicit drug during the past year

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

Incidence of Drug Impaired Driving

California - A study of young male drivers fatally injured in crashes found that 51% had used drugs other than alcohol.

Source: Compton, NHTSA 1985

University of Tennessee Study

In 1988, 40 percent of crash injured drivers had drugs other than alcohol in their system.

Questions?
SESSION III

DEVELOPMENT AND EFFECTIVENESS
OF THE DRUG EVALUATION AND
CLASSIFICATION PROGRAM
SESSION III DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM

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

- State the origin and evolution of the Drug Evaluation and Classification program.
- Describe research and demonstration project results that validate the effectiveness of the program.
- State the impact of legal precedents established by case law.
- Correctly answer the "topics for study" questions at the end of this session.

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<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
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<td>A. Origin and Evolution of Drug Evaluation &amp; Classification Program</td>
<td>o Instructor Led Presentations</td>
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<tr>
<td>B. Evidence of Effectiveness</td>
<td>o  Reading Assignments</td>
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<td>C. Case Law Review</td>
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<td>III-1 (Title)</td>
<td>DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM</td>
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<td>III-2A&amp;B (Objectives)</td>
<td>A. Origin and Evolution of the Drug Evaluation and Classification (DEC) Program</td>
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15 Minutes

1. The DEC program was developed by personnel of the Los Angeles Police Department.

2. Development of the DEC program began in the early 1970's, in response to a growing awareness that many people apprehended for impaired driving were under the influence of drugs other than alcohol.

3. Individuals principally responsible for initiation and development of the program.
   a. Dick Studdard (A Traffic Officer)
      o encountered many impaired drivers whose BACs were zero or very low.

Session title on wall chart.

Sergeant Studdard retired from the LAPD in June, 1990.
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<td>o occasionally succeeded in having physicians examine some of these low BAC subjects, resulting in diagnosis of drug influence.</td>
<td>Note: examining physicians subsequently would be subpoenaed to testify in contested cases.</td>
<td></td>
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<td>o for various reasons, physicians were often reluctant or unwilling to conduct these examinations and offer opinions.</td>
<td>Some reasons why doctors may be reluctant:</td>
<td></td>
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<td>o as a result, some drivers whom Studdard and other officers were certain were impaired were not prosecuted or convicted for DWI.</td>
<td>(1) They typically receive little training in the recognition of specific signs of drug impairment, particularly at street level doses.</td>
<td></td>
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<tr>
<td>o Studdard concluded that it was essential to develop diagnostic procedures that officers could use when confronted with persons suspected of drug impairment.</td>
<td>(2) They may not see the subject until hours after the drugs were used, by which time the signs and symptoms often have changed.</td>
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<td>Deceased in 1995.</td>
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b. Len Leeds (A Narcotics Officer) |
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<td>collaborate in the development of a program.</td>
<td>Note: The LAPD program was referred to as the Drug Recognition Expert (DRE) program</td>
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<td>o initiated some independent research by consulting with physicians, enrolling in relevant classes, studying text books, technical articles, etc.</td>
<td></td>
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<td>o secured management level support within the department to continue research and program development.</td>
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<td></td>
<td>c. As time went on, many other key persons both within and outside LAPD contributed to the development and refinement of the program.</td>
<td></td>
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<td>4.</td>
<td>Around 1979, the program was officially recognized by LAPD.</td>
<td></td>
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<td>5.</td>
<td>The DEC program evolved into what is essentially a three-step process.</td>
<td>Clarification: the first portion of the drug evaluation examination is devoted principally to Standardized Field Sobriety Testing of the subject, and to the administration of a breath test.</td>
</tr>
<tr>
<td>III-3</td>
<td>a. First, establish that the subject is impaired and verify that his or her alcohol level is not consistent with the degree of impairment that is evident.</td>
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</table>
### Aids

| b. | Second, use some simple diagnostic procedures to determine whether the impairment may stem from illness or injury, requiring prompt medical attention. |
| c. | Third, use diagnostic procedures to determine what category (or categories) of drugs is the likely cause of the impairment. |

### Lesson Plan

6. **Key point:** the entire examination is **standardized**.
   - a. Administered the same way to all subjects.
   - b. Administered the same way by all officers.

7. The need for diagnostic procedures.
   - a. One reason for needing the diagnostic procedures is that we may be called upon to submit evidence of an articulable suspicion of drug influence to support our

### Instructor Notes

Inconsistency between the observed impairment and the BAC suggests the presence of some other drug(s), or some other complicating factor such as an illness or injury.

Pose this question: "Why is it necessary for an officer to use diagnostic procedures to determine the category of drugs causing the impairment?"

Follow-up question: "If we see that a subject is impaired, and the BAC is too low to account for that impairment, why don't we simply obtain a blood sample and ask the laboratory to analyze the sample for all drugs?"

Solicit responses from students.

Some courts or motor vehicle hearings officers may find that a low BAC result, by itself, does not provide adequate basis for requesting the subject to submit to a 2nd chemical test.
request for a chemical test of the subject.

b. Another reason is that the subject may refuse to submit to the chemical test, denying us of scientific evidence of drug influence. In that case, conviction or acquittal may hinge on the officer's observations and expertise as a drug examiner.

c. A third reason is that chemical tests usually disclose only that the subject has used a particular drug recently. The chemical test usually does not indicate whether the drug is psychoactive at the present time.

Thus, the DRE procedures are needed to establish that the subject not only has used the drug, but also that he or she is under the influence at this time.

d. A fourth reason is that it can be expensive, and require a large sample of blood or urine, to perform a broad analysis for any or all drugs. Practical constraints require that we be able to point the laboratory technician toward those types of drugs most likely to be found in the sample.

Pose this question: “Are there other toxicological samples that can be obtained for drug analysis by the lab?”

Solicit responses on hair and saliva sampling.
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<td>e.</td>
<td>It is always possible that a person suspected of drug impairment is actually suffering from some medical problem. If a sample is collected, and the subject is not examined by someone who is qualified, evidence of medical problems may not come to light until it is too late.</td>
<td>Solicit students' questions and comments concerning the origin, evolution and need for the Drug Evaluation and Classification program.</td>
</tr>
</tbody>
</table>

**B. Evidence of Program Effectiveness**

1. LAPD began to work with the National Highway Traffic Safety Administration (NHTSA) on issues relating to this program in the early 1970's.

   a. The first step was to develop and validate a battery of Standardized Field Sobriety Tests for investigating alcohol impaired driving.

   b. LAPD personnel played a major role in the research that led to the wide spread use of Horizontal Gaze Nystagmus, the Walk and Turn test, and the One Leg Stand test.

   c. By the early 1980's, NHTSA completed its validation of the standardized tests for alcohol enforcement.

   d. At that time, NHTSA began to assist LAPD in validating the drug enforcement program.
### Aids

#### III-4 (Two Stages of Validation)

2. NHTSA assisted LAPD in a two-phased validation study.

   a. Laboratory validation, using volunteers who ingested selected drugs.

   b. Field validation, using persons actually arrested in Los Angeles on suspicion of drug influence.

3. The Laboratory Validation took place at Johns Hopkins University in Maryland.

   a. The drug examiners were senior DREs from LAPD.

   b. The laboratory experiments were planned and conducted by researchers from Johns Hopkins.

   c. Volunteers each took a "pill" and smoked a "cigarette".

   d. The "pill" contained either no drug (placebo) or one of the following drugs:

      - Secobarbital (CNS Depressant)
      - Valium (i.e. Diazepam - CNS Depressant)
      - Desoxyn (Methamphetamine Sulfate - CNS Stimulant)

### Lesson Plan

### Instructor Notes

Note: The Johns Hopkins validation was conducted in 1984.

Note: The LAPD Field validation was conducted in 1985.

The LAPD participants:
- Dick Studdard
- Jerry Powell
- Pat Russell
- Doug Laird
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<td>e.</td>
<td>The &quot;cigarette&quot; contained either Marijuana or no drug (placebo).</td>
<td>Note: this condition is known as a &quot;double blind&quot; experiment. The people being tested and the people doing the testing are kept uninformed of the test condition.</td>
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<td>f.</td>
<td>Neither the volunteers nor the LAPD officers knew what the volunteers had taken.</td>
<td>Clarification: some of the Diazepam and Methamphetamine Sulfate pills were &quot;weak&quot;, some were &quot;strong&quot;. Similarly, some of the Marijuana cigarettes were &quot;weak&quot;, some &quot;strong&quot;. All of the Secobarbital pills were &quot;strong&quot;.</td>
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</table>
| g.   | Two different dose levels of Marijuana, Diazepam and Methamphetamine Sulfate were used. | Instructor: The following is given for your information. Normal daily doses for therapeutic purposes:  
  - Secobarbital: approx 100mgs  
  - Diazepam: 4-40mgs  
  - Desoxyn (methamphetamine sulfate): 15mgs  
Doses administered for this study:  
  - Secobarbital: 300 mgs  
  - Diazepam: weak - 15mgs; strong - 30mgs  
  - Desoxyn: weak - 15mgs; strong - 30mgs |
Aids Lesson Plan Instructor Notes

III-5 (Lab Results)

4. Results of the Johns Hopkins study.
   a. The DREs were excellent in identifying subjects who received only placebo doses: they classified 95% of the drug free subjects as "not impaired".
   b. Similarly, they were excellent in identifying the high dose subjects.
      - they classified as "impaired" 98.7% of the subjects who received Secobarbital or strong doses of Marijuana, Diazepam or Methamphetamine Sulfate.
      - they correctly identified the category of drug for 91.7% of those strong dose subjects.
   c. The DREs were less successful in identifying the weak dose subjects.
      - only 17.5% of the subjects who received the weak dose of Methamphetamine Sulfate were classified as "impaired".

• Marijuana:
  weak - 12 puffs of 1.3% THC cigarettes
  strong - 12 puffs of 2.8% THC cigarettes
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<tr>
<td>o only 32.5% of the subjects who smoked the &quot;weak&quot; Marijuana cigarettes were classified as &quot;impaired&quot;.</td>
<td>d. The results of the laboratory validation study were considered to be extremely positive.</td>
<td>Emphasize that these low dose subjects probably would never have been stopped by police officers, if they had been driving.</td>
</tr>
<tr>
<td>o the DRE procedures correctly identified the category of drugs in more than 90% of the subjects who were impaired.</td>
<td>o the procedures only rarely indicated that unimpaired subjects were under the influence of drugs.</td>
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<td>5. The field validation study was based on 173 people actually arrested on suspicion of driving under the influence of drugs.</td>
<td>a. None of the cases involved a crash.</td>
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<td>b. In all of the cases, the arrested subjects agreed to submit to a blood test.</td>
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<td>Point out that, during the study period, many other drugged driving arrests were made by LAPD officers.</td>
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### Aids Lesson Plan

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<td>But the researchers excluded all cases where the subjects refused to give blood, since it would have been impossible to check the DREs accuracy in those cases. Similarly, they excluded all cases that involved crashes, since the subjects' injuries could have confounded the drug examination.</td>
</tr>
</tbody>
</table>

### Instructor Notes

| c. Twenty-eight different DREs from LAPD participated in the examinations of these 173 subjects. |

### 6. Results of the Field Study.

| a. Based on the independent blood tests, only one of the 173 subjects was found to have no alcohol or other drugs. |
| b. Another 10 subjects were found to have only alcohol in them. |

### III-6A (LA Field Study)

| c. 37 (21%) of the subjects were found to have only one drug other than alcohol. |
| d. 82 had two drugs other than alcohol (47%), and 43 (25%) had three or more drugs other than alcohol. |

POINT OUT that it is possible that these 11 so-called "drug free" subjects may have used drugs that the independent laboratory could not identify, for various reasons.

Even if we assume that these 11 people really had not used any drug other than alcohol, 11 out of 173 is a very small "false positive" rate.
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<td>e. This means that 125 of the 173 subjects had ingested two or more drugs other than alcohol: That is more than 72% of the subjects.</td>
<td>Emphasize: Polydrug use is very common. Write on dry erase board “72% two or more drugs other than alcohol”.</td>
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<td>f. PCP was the drug most often found among these 173 subjects: more than half of them (56%) had used PCP.</td>
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<td>III-6B (LA Study - blood tests)</td>
<td>7. The key finding of this study was the following: For more than nine out of ten of the subjects (92.5%), the blood test confirmed the presence of at least one drug category &quot;predicted&quot; by the DREs.</td>
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<tr>
<td>III-6C (Confirmation Rates)</td>
<td>8. The confirmation rates for specific categories: a. PCP: blood tests confirmed DREs' predictions in 92% of the cases. POINT OUT that in the other 8% it is possible that a PCP analog might have been used.</td>
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<td>b. Narcotic Analgesics: blood tests confirmed 85% of the DREs' predictions.</td>
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<td>c. Cannabis: blood tests confirmed 78% of DREs' predictions.</td>
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</tr>
<tr>
<td>d.</td>
<td>CNS Depressants: blood tests confirmed 50% of DREs' opinions.</td>
<td>POINT OUT that there are literally hundreds of different CNS Depressants, many of which may not have been identifiable by the independent laboratory.</td>
</tr>
<tr>
<td>e.</td>
<td>CNS Stimulants: blood tests confirmed 33% of DREs' opinions.</td>
<td>EMPHASIZE that, in this study, the blood samples were not frozen after collection. Unfortunately, cocaine continues to degenerate in a blood sample if the sample isn't frozen. It is quite possible that the cocaine had metabolized from some samples before the lab analyzed them.</td>
</tr>
</tbody>
</table>

9. Numerous states have conducted comparisons of laboratory analysis and DRE opinions. The correlation rates exceeded 80% in those studies.

EMPHASIZE: Simply because a lab cannot find “drugs” in a sample does not guarantee that no drug is present. All labs have some blind spots.

10. The overall conclusion of the laboratory and field studies is that the DEC Program is an effective tool for law enforcement.

Solicit students' questions about the laboratory and field studies.

C. Case Law Review

15 Minutes

1. Favorable Court Rulings on DEC Procedures

a. Courts in various states have ruled favorably on the DEC Program. American courts employ either the Frye or Daubert Standard for determining the admissibility of scientific evidence.

III-7A (Case Law Review)
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<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<td></td>
<td>b. The Frye standard is the traditional test for admissibility of &quot;new&quot; scientific evidence.</td>
<td>NOTE: Frye standard was set by the US Supreme Court in 1923. Print &quot;Frye Standard&quot; on the dry erase board or flip-chart.</td>
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<td>c. The Frye standard: &quot;is the procedure or principle espoused accepted by the relevant scientific community?&quot;</td>
<td>NOTE: Daubert standard requires a showing of reliability before scientific evidence can be admitted. Print &quot;Daubert&quot; on the dry erase board or flip-chart</td>
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<td>d. In Daubert, courts serve as a gatekeeper for all scientific evidence.</td>
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<td>o Courts assess evidence by considering four factors:</td>
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<td>1. Opinions are testable</td>
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<td>2. Methods/principles have been subject to peer review</td>
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<td>3. Known error rate can be identified</td>
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<td>4. Opinions rest on methodology that is generally accepted within the relevant scientific/technical community</td>
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<td><strong>III-7A</strong> (Klawitter)</td>
<td>f. A Minnesota Court (City of Minneapolis) ruled that outside of nystagmus, the DEC Program is not subject to the Frye Standard.</td>
<td>State of Minnesota, City of Minneapolis v. Larry Michael Klawitter, 518 N.W.2d 577, (1993).</td>
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<td><strong>III-7A</strong> (Hernandez)</td>
<td>g. A Colorado Court (Boulder County Court) ruled that the procedures used by DREs are not new or novel and the Frye Standard did not apply.</td>
<td>State of Colorado v. Daniel Hernandez, 92M 181, (1992).</td>
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<td><strong>III-7B</strong> (Baity)</td>
<td>h. The Washington Supreme Court determined that the Frye Standard applies to the protocol because the process has “scientific elements”.</td>
<td>Washington v. Baity 991 P. 2d, 1151, 140 Wn. 2d 1 (2000)</td>
</tr>
<tr>
<td><strong>III-7B</strong> (Aleman)</td>
<td>i. A New Mexico Court ruled that the DRE protocols are the application of traditional techniques</td>
<td>New Mexico v. Mariam Aleman Dona Ana County, 3rd District (2003)</td>
</tr>
<tr>
<td><strong>III-7B</strong> (Cubrich)</td>
<td>j. A Nebraska Court ruled that the DRE's opinion was correct and that the DRE protocol is admissible.</td>
<td>State v. Cubrich Case No. CR03-8203 Sarpy County Court (2004)</td>
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<td>k. In many jurisdictions, it will not be necessary to have expert scientific testimony to secure admissibility of a DRE's examination of a subject.</td>
<td>NOTE: In this case, the court used the Daubert standard.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>2. The DEC program is gaining acceptance in many courts.</td>
<td>Expert testimony regarding drug influence has long been accepted by numerous courts. The components of DRE evaluation are generally accepted in the scientific community. The DEC program simply combined those components into a systematic and standardized procedure. Thus many prosecutors believe that FRYE standards do not apply to DRE evaluations and testimony.</td>
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<td>3. One key element of DEC -- namely, Horizontal Gaze Nystagmus -- has been recognized as meeting the Frye standard by several State Supreme Courts.</td>
<td>In fact, testimony based on DRE investigation have been accepted by courts for years.</td>
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<td>a. First to do so was Arizona, in the case known as State vs. Blake.</td>
<td>Print &quot;State vs. Blake&quot; on the dry erase board or flip-chart.</td>
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<td>b. Many more State Supreme Courts are expected to rule favorably on HGN in the near future.</td>
<td>Point out that additional court rulings on HGN are summarized in the Student’s Manual.</td>
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<td>4. Summary of HGN Case Law.</td>
<td>Emphasize that students should familiarize themselves with the case law on HGN to ensure they avoid the errors that kept that evidence from being admitted in the past.</td>
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<td></td>
<td>a. The prevailing trend is for courts is to admit HGN as evidence of impairment, with the proper scientific foundation.</td>
<td>If there are significant cases concerning DEC or HGN from the students' State, review them at this time.</td>
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<td>Solicit students' questions and comments about case law.</td>
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</tbody>
</table>
b. But courts consistently reject all attempts to introduce HGN as evidence of a quantitative BAC.

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 Standardized Field Sobriety Tests to show a "neurological dysfunction", one cause of which could be the ingestion of alcohol.

Write "No Chemical Test - HGN Admissible".

Write on dry erase board or flip chart - "Cannot be used as evidence of specific BAC level".
Topics for Study

1. State four reasons why it is important not to rely simply on a chemical test to establish a subject's drug impairment.

   Develop articulable evidence of drug impairment; Suspect may refuse chemical test; Chemical tests do not indicate recency of use; Suspect may be suffering from injury or illness

2. What categories of drugs were included in the Johns Hopkins Laboratory Study?

   CNS Depressants, CNS Stimulants, Cannabis

3. In what percentage of cases in the Los Angeles Field Validation Study did blood tests confirm the DREs' opinion that PCP was present?

   92%

4. What percentage of subjects were found to be polydrug users in the LAPD Field Validation Study?

   72%

5. What was the landmark State Supreme Court case that upheld the use of HGN as evidence of impairment?

   State (AZ) vs Blake

6. What do we call the standards for admissibility of scientific evidence, set by the U.S. Supreme Court?

   Frye Standard

7. Which State first found the Drug Evaluation and Classification procedures met the standards of scientific evidence?

   Arizona
Session III
Development and Effectiveness of the Drug Evaluation and Classification Program

Development and Effectiveness of the DEC Program (Continued)

- State the impact of legal precedents established by case law
- Correctly answer the "topics for study" questions at the end of this session

The Three-Step Drug Evaluation Process

Step One
Establish that the subject is impaired

Step Two
Rule out medical impairment

Step Three
Determine the category of drugs involved

Two Stages of Validation

Stage One: Laboratory Validation Study
Johns Hopkins University

Stage Two: Field Validation Study
Los Angeles

Laboratory Study Results

1. DRE officers correctly identified 95% of drug-free subjects as "unimpaired"
2. DRE officers classified 98.7% of high-dose subjects as "impaired"
3. Correctly identified the category of drugs for 91.7% of high-dose subjects
4. DRE officers were less successful in classifying low-dose subjects
The Los Angeles Field Validation Study

- 173 drivers accused of drug impairment
- Blood tests confirmed:
  - One suspect had no drugs or alcohol
  - 10 had alcohol only
  - 37 (21%) had one drug
  - 82 (47%) had two drugs
  - 43 (25%) had three or more drugs

The Los Angeles Field Validation Study (Continued)

- Blood tests confirmed the presence of at least one “predicted” category of drugs for more than 90% of the suspects

Confirmation Rates for Specific Categories

- 92%: Phencyclidine (PCP)
- 85%: Narcotic Analgesics
- 78%: Cannabis
- 50%: CNS Depressants
- 33%: CNS Stimulants

Case Law Review

- “Frye” Standard
- Minnesota v Klawitter
- Colorado v Hernandez

Case Law Review (Cont.)

- Washington v Baity
- New Mexico v Aleman
- Nebraska v Cubrich

HGN Case Law

- State (AZ) v Blake
QUESTIONS?
“Frye” Decisions Regarding Admissibility of Drug Recognition Expert Testimony

“Frye” refers to a United States Federal Court opinion dealing with the admissibility of scientific evidence. The court established that new or novel scientific evidence, or the novel application of scientific principles, must be shown to have met with general acceptance in the relevant scientific community before it can be admitted.

1990
Defendants
Nos 90056865 & 90035883 (Unpublished Opinion).

The Municipal Court of the City of Tucson, County of Pima, State of Arizona

“Virtually all the witnesses agreed that the scientific procedures utilized by trained drug recognition experts are reliable and are generally accepted in the scientific community. The methodology in place, used by trained law enforcement personnel in the field, has been shown to produce reasonably reliable and uniform results that will contribute materially to the ascertainment of the truth.”

On May 7, 1992, the Arizona Supreme Court heard oral arguments in a special proceeding regarding this case. The Justices uniformly rejected the application of “Frye” to the DRE procedures. The Chief Justice observed that the component examination procedures had been established for fifty years.

The prosecutors in this case were Tom Rankin (Tucson) and Cliff Vanell (Phoenix). Expert witnesses for the prosecution included: Sgt. Richard Studdard, LAPD, Marcelline Burns, Ph.D., Sgt. Thomas Page, LAPD, Zenon Zuk, M.D., and Eugene Adler, toxicologist.

1992
County Court, Boulder, Colorado
Case No. 92M181 (Unpublished Opinion)
People of the State of Colorado v. Daniel Hernandez

“The DRE methods are accepted within the scientific community because they have found to be reliable.”

“The Court finds that the expert does have sufficient specialized knowledge to assist
the jurors in better deciding whether the defendant drove his car when under the influence of a specific drug. The DRE testimony can be used at trial provided a sufficient foundation is laid.” Overall, this court ruled that the procedures used by DRE’s are not new or novel scientific techniques that must meet the “Frye” standard.

The prosecutor in this case was David Archeluta (Boulder County). Expert witnesses for the prosecution include: Sergeant Thomas Page, LAPD, Zenon Zuk, M.D., Marcelline Burns, Ph.D., Rick Abbott, M.D., and Laurel Farrell (chemist).

1993
State of Minnesota, City of Minneapolis vs. Larry Michael Klawitter, 518 N.W.2d 577 (1994)

“Given proper foundation and subject to other qualifications, opinion testimony by experienced police officers trained in use of so-called drug recognition protocol is generally admissible in evidence in a trial of a defendant for driving while under the influence of a controlled substance.”

The Court determined that the gaze nystagmus test satisfies the requirements of “Frye”.

“We agree with the trial court that the officer should be allowed to give an opinion based on the officer’s training and experience and his or her observations following the 12-step drug recognition protocol, as long as (a) there is sufficient foundation for the specific opinion expressed, (b) the state does not attempt to exaggerate the officer’s credentials by referring to the officer as a “Drug Recognition Expert” or to unfairly suggest that the officer’s opinion is entitled to greater weight than it deserves, and...” “We add only that it should be obvious that the mere fact that such opinion testimony by itself will be sufficient to support a guilty verdict.”

The court also determined that, outside of nystagmus, the components of a DRE examination are not scientifically new and are not subject to the “Frye” test.

The trial court stated, “...there is nothing scientifically new, novel, or controversial about any component of the DRE protocol itself. The symptomatology matrix used by DRE’s to reach their conclusions is not new and is generally accepted in the medical community as an accurate compilation of signs and symptoms or impairment by the various drug categories.”

The prosecutor in this case was Karen Herland (City of Minneapolis). Expert witnesses for the prosecution included: Sgt. Thomas Page, LAPD, Dr. Marcelline Burns (psychologist), Dr. David Peed (optometrist), Dr. Zenon Zuk (medical doctor), Eugene Adler (criminalist), Dr. S.J. Jejurikar (MN Bureau of Criminal Apprehension), and Robert Meyer (toxicologist).
Given proper foundation and subject to other qualifications, opinion testimony by an experienced police officer trained in the use of the drug recognition protocol is generally admissible in evidence in a trial of a defendant charged with driving under the influence of a controlled or chemical substance. Furthermore, Horizontal Gaze Nystagmus (HGN) test results are generally admissible to establish (1) that the defendant was impaired; and/or (2) that the defendant was over the legal limit; and/or (3) the defendant’s specific breath or blood alcohol level at the time he performed the test.”

This court found that the “Frye” standard is inapplicable to the DRE Protocol because neither the protocol nor any of its subsets (including HGN, VGN, and Lack of Convergence) are “scientific”.

Further, these tests are neither new nor novel. The Court also state that “Frye” is inapplicable to HGN, VGN, and LOC because none of them are new or novel. “None of these tests or the theories and procedures they encompass, are new, novel, or emerging scientific techniques. The medical and psychological professions have acknowledged the tests’ underlying theories and procedures for decades.”

The Court concluded:

“Drug recognition training is not designed to qualify police officers as scientists, but to train them as observers. The training is intended to refine and enhance the skill of acute observation...and to focus that power...in a particular situation.”

This court followed the Klawitter (Minnesota) decision, that it requires the state to “lay a proper predicate before referring to a DRE as anything other than a DRE or Drug Recognition Evaluator or Examiner.”

“The real issue is not the admissibility of the evidence, but the weight it should receive. That is a matter for the jury to decide.”

The prosecutor in this case was Steve Talpins (Dade County). Expert witnesses for the prosecution in this case included: Marcelline Burns, Ph.D., Zenon Zuk, M.D., Robert Dobie, M.D., Sergeant Thomas Page, LAPD, and others.
In this case, the court was asked to determine if a drug recognition protocol, used by trained drug recognition officers to determine if a suspect’s driving is impaired by a drug other than alcohol, meets the requirements of *Frye v. United States*, 293 F. 1013,34 A.L.R. 145 (1923), for novel scientific evidence.

The issue brought before the court was; Is a drug recognition program novel scientific evidence generally accepted in the scientific community, thus satisfying the *Frye* test for admissibility?

The facts in this case were:
The state charged Baity with one count of DUI, in violation of RCW 46.61.502 (l) (b) (c), and one count of driving while license suspended in the third degree, in violation of RCW 46.20.342(l)(c), after he failed roadside SFST's and showed signs of drug impairments.

In a pretrial motion in Baity’s case, the State sought to qualify the DREs as experts and to obtain a ruling on the admissibility of DRE evidence with respect to the defendant’s drug impairment and the evaluation process used to determine that impairment. Specifically, the State sought to admit testimony that Baity’s impairment was consistent with the symptoms associated with one of seven categories of drugs. Additionally, the state moved to admit testimony regarding the use of the horizontal gaze nystagmus (HGN) test, both for the detection of alcohol and for the detection of drugs. Baity moved to suppress all DRE evidence, including the HGN test, on the basis that the DRE program and protocol constitute novel scientific evidence subject to the *Frye* test for admissibility.

On May 19, 1998, the Pierce County District Court judges issued their opinion titled, “Opinion Regarding Admissibility of HGN and DRE.” In that opinion, they denied the defendants’ motions to suppress the field sobriety tests (SFSTs) as to their alcohol impairment, holding those tests are “reasonably understandable to the ordinary person” and therefore not subject to *Frye*. Clerk’s Papers at 56. The court also noted some features of the DRE protocol were either not of a scientific nature or were scientific, but not novel.

The court ruled that after analyzing the DRE protocol and the approach of other courts to its admissibility, that the DRE protocol and the chart used to classify the behavioral patterns associated with seven categories of drugs have scientific elements meriting evaluation under *Frye*. They also found that the protocol to be accepted in the relevant scientific communities. However, the court ruled that there is confined situations where all 12-steps of the protocol have been undertaken.
Moreover, an officer may not testify in a fashion that casts an aura of scientific certainty to the testimony. The officer also may not predict the specific level of drugs present in a suspect. The DRE officer, properly qualified, may express an opinion that a suspect’s behavior and physical attributes are or are not consistent with the behavioral and physical signs associated with certain categories of drugs.

The court also held that the protocol meets the mandate of Frye. An officer may testify concerning such drug impairment, subject to the limitations set forth in this opinion, upon meeting the requirements of ER 702 and 703 for the admission of expert opinion testimony. The court reversed the suppression orders of the Pierce County District Court and remanded the cases for further proceedings consistent with this opinion.

2003
Case No. CR-2003-00025
State of New Mexico vs. Miriam Aleman
State of New Mexico, County of Dona Ana
Third Judicial District
Judge Silvia E. Cano-Garica

Defendant made a motion In Limine to exclude the testimony of the DRE officer. They heard the testimony of various witnesses and reviewed the State’s Brief in support of the DRE testing. Testimony and other applicable documents found that:

The DRE officer was recognized as an expert of DRE testing based upon his specialized knowledge and experience, the DRE evaluation method is generally accepted in the particular scientific field of forensic toxicology, the DRE evaluation provides critical information which assists the toxicologist in forming an opinion as to whether the driver was impaired by the use of drugs at or near the time the driver was driving the motor vehicle.

The DRE protocols are the application or incorporation of traditional techniques in the biology, physiology, anatomy, chemistry, pharmacology and toxicology fields, and the ultimate decision as to the driver’s alleged impairment, based on all of the testimony received, rests with the jury.

2004
Case No. CR 03-8203
State of Nebraska vs. Timothy J. Cubrich
Judge Todd J. Hutton, Sarpy Co. Court

The court was asked to determine the admissibility of the law enforcement officer’s opinion that the defendant was under the influence of a drug, other than alcohol, to the extent that his abilities to safely operate the vehicle were appreciable impaired.

The court concluded: Since Daubert, the court now serves in the “gatekeeping” role in which it is called upon to determine the reliability and relevance of expert testimony. There is no Case Law in Nebraska which has specifically addressed the issue of expert testimony relating to impaired drivers suspected of using drugs. Nor is there a statutory procedure by which Drug Recognition Examinations or the opinions derived there from have been codified.

Application of the Daubert standard provided a number of considerations the court used in determining the admissibility of evidence through the testimony of an expert, which included:

The 12-step protocol which relies on determining if a person is drug impaired has been recognized in the scientific community, including physicians, ophthalmologists, and forensic toxicologists, as a dependable methodology by which an officer, properly trained, can identify impairment and the category of drug(s) which are impairing the suspect’s cognitive and physical capabilities.

The methodology is reliable because it is dependent on a fixed set of assessments which are verified by a toxicology test. The evaluation process includes HGN testing which has been found to meet the Frye standard of admissibility. Additionally, the HGN and VGN tests have been subject to peer review and publication. The remaining tests serve to screen the suspect’s mental and physical condition documenting clues explaining why the person may or may not be impaired and if so the source(s) involved.

The drug recognition assessment is a tool by which a specially trained officer can conclude “based on the totality of results” whether or not a person is impaired by a drug other than alcohol.

The court found that the DREs opinion was correct in that the Defendant showed signs of impairment from a drug, other than alcohol, which caused him to seek a toxicological examination. The category of drug is admissible for the limited purpose of establishing foundation for drug screen conducted by the toxicologists.
HORIZONTAL GAZE NYSTAGMUS
STATE CASE LAW SUMMARY

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.”


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.


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.”


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


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

II. Police Officer Testimony Needed to Admit HGN Test Result


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. 4th 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. 4th 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


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


Delaware

I. Evidentiary Admissibility


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. 

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 3rd 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.”
The 4th 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.


**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**


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.

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.


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 P2d. 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


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.


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 III. 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 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

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 my be admitted as evidence of intoxication.


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.

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.

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.


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 hot 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


**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. 1-5-2001, 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 (3rd 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


North Dakota

I. Evidentiary Admissibility

Court found that HGN test is admissible as a standard field sobriety test. *City of Fargo v. McLaughin*, 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


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).

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


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. Fisken, 909 P.2d 206, 207 (Or. Ct. App. 1996).

Pennsylvania

I. Evidentiary Admissibility


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 sobriety or insobriety . . . Evidence 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

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


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).


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


“[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

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 (4th 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_.

000306
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

Or

Visit their website www.ndaa-apri.org.
ATTACHMENT C

SCIENTIFIC PUBLICATIONS AND RESEARCH REPORTS ADDRESSING NYSTAGMUS

1. 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 Standardized 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).

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...").


4. 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.


battery developed by SCRI (one-leg stand, walk and turn, and HGN) to aid officers in discriminating BAC level).

8. Burns, The Robustness of the Horizontal Gaze Nystagmus (HGN) Test, U.S. Dept. of Transportation 2004. Concludes that HGN as used by law enforcement is a robust procedure and the data obtained in this report does not support changes or revisions to the current testing or procedure.


10. Citek, Ball and Rutledge, Nystagmus Testing in Intoxicated Individuals, Vol. 74, No. 11, Nov. 2003, Optometry, established that the HGN test administered in the standing, seated, and supine postures is able to discriminate impairment at criterion BAC’s of 0.08% and 0.10%.

11. 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.).


13. 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).

14. 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..." Officers can learn to estimate BACs to within an average of 0.02 percent of chemical test readings." Id. at 94).

15. 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).

17. 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).


20. Norris, The Correlation of Angle of Onset of Nystagmus With Blood Alcohol Level: Report of a Field Trial, CALIF. ASS'N CRIMINALISTICS NEWSLETTER, June 1985, at 21 (The relationship between the ingestion of alcohol and the inset of various kinds of nystagmus "appears to be well documented." Id. "While nystagmus appears to be useful as a roadside sobriety test, at this time, its use to predict a person's blood alcohol level does not appear to be warranted." Id. at 22).


22. 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).


26. Savolainen, Riihimaki, Vaheri & Linnoila, *Effects of Xylene and Alcohol on Vestibular and Visual Functions in Man*, SCAND. J. WORK ENVIRON. HEALTH 94 (Sweden 1980) (abstract available on DIALOG, file 172: Embase 1980-81 on file 5: Biosis Previews 1981-86) (the effects of alcohol on vestibular functions (e.g., positional nystagmus) were dose-dependent).

27. 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.).


31. 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).


SESSION IV

OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES
SESSION IV  OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES

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

- Name the components of the Drug Evaluation and Classification program drug influence evaluation.
- State the purpose of each component.
- Describe the activities performed during each component.
- Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Components of the Drug Evaluation and Classification Procedure</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td></td>
<td>o Instructor Led Demonstrations</td>
</tr>
<tr>
<td>B. Interview of the Arresting Officer</td>
<td>o Video Presentations</td>
</tr>
<tr>
<td>C. The Preliminary Examination</td>
<td>o Reading Assignments</td>
</tr>
<tr>
<td>D. Examinations of the Eyes</td>
<td></td>
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<tr>
<td>E. Divided Attention Psychophysical Tests</td>
<td></td>
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<td>F. Examinations of Vital Signs</td>
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<td>G. Dark Room Checks of Pupil Size</td>
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<tr>
<td>H. Examination of Muscle Tone</td>
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<tr>
<td>I. Examination for Injection Sites</td>
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<tr>
<td>J. Toxicological Examination</td>
<td></td>
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<tr>
<td>K. Video Demonstration</td>
<td></td>
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</tbody>
</table>
### Aides

| IV-1 (Title) |

### Lesson Plan

| OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES |

| IV-2A&B (Objectives) |

| 35 Minutes |

|  |

### Instructor Notes

| Total Lesson Time: Approximately 150 Minutes |

| Display Session Title |

| IV-3 (Systematic & Standardized) |

| A. Components of the Process |

| 1. The DEC procedure is a standardized and systematic method of examining a subject to determine: |

| a. Whether subject is impaired. |

| b. Whether the impairment is caused by drugs or a medical condition. |

| c. And if drugs, the category (or categories) of drugs that is (or are) the likely cause of the subject’s impairment. |

| 2. The process is systematic in that it is based on a careful assessment of a variety of observable signs and symptoms that are known to be reliable indicators of drug impairment. |

<p>| Write on the dry erase board or flip-chart: &quot;A SYSTEMATIC PROCESS&quot; |</p>
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. Some of these observable signs and symptoms relate to the subject’s <strong>appearance</strong>.</td>
<td>Write &quot;appearance&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>b. Some of the signs and symptoms relate to the subject’s <strong>behavior</strong>.</td>
<td>Write &quot;behavior&quot; on the dry erase board or flip-chart.</td>
</tr>
</tbody>
</table>
|      | c. Some relate to the subject’s performance of carefully administered **psychophysical tests**. | Write "psychophysical testing" on the dry erase board or flip-chart.  
**Ask** students: "What does 'psychophysical' mean?"
**Point out** that "psycho-physical" relates to the subject’s **mind** (psyche) and **body** (physique). |
<p>|      | • Drugs impair the subject’s ability to control his or her mind and body. |  |
|      | • Psychophysical tests can disclose that the subject’s ability to control mind and body is impaired. |  |
|      | • The specific manner in which the subject performs the psychophysical tests may help indicate the category or categories of drugs causing the impairment. |  |
|      | d. Some of the observable signs and symptoms relate to the subject’s <strong>automatic responses</strong> to the specific | Write &quot;automatic responses of the body&quot; on the dry erase board or flip-chart. |</p>
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td>drugs that are present.</td>
<td>NOTE: Emphasize that DREs should always try to conduct the 12-step process in the same manner each time. However, there may be times when that is not possible, i.e., uncooperative subject, equipment failure, or refusals. Explain that if they are unable to complete all steps of the examination, that they must explain the reasons for this in their narrative report and if they are still able to form an opinion, what evidence and observations supports their opinion.</td>
</tr>
<tr>
<td></td>
<td>e. All of these reliable indicators are examined and carefully considered before a judgment is made concerning what categories of drugs are affecting the subject.</td>
<td></td>
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<tr>
<td></td>
<td>3. The evaluation is standardized in that it is administered the same way, every time.</td>
<td></td>
</tr>
</tbody>
</table>
|      | a. Standardization helps to ensure that no mistakes are made. | Ask students: "Why is it so important to perform the drug evaluation and classification examination in exactly the same way, every time?"
Probe to draw out all major reasons for standardization. |
|      | • No examinations are left out. |  |
|      | • No extraneous or unreliable "indicators" are included. |  |
### Aids Lesson Plan Instructor Notes

b. Standardization helps to promote professionalism among drug recognition experts.

NOTE: Discuss examples of reasons when the DRE may be unable to complete each step of the examination, i.e., injuries, uncooperative suspect, equipment failure.

In such cases, the DRE may still be able to form an opinion based upon the evidence obtained. State v. Cammack, 1997 WL 104913 (Minnesota Ct. Appeals, 1997) ruled that a DRE need not complete the entire 12-step evaluation for an opinion to be admissible so long as there is sufficient admissible evidence.

c. Standardization helps to secure acceptance in court.

Refer students to the 12-Step evaluation checklist on page IV-2 of their participants manual.

<table>
<thead>
<tr>
<th>4. The Drug Evaluation and Classification drug influence evaluation has twelve components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The Breath Alcohol Test is needed to determine Blood Alcohol Concentration (BAC).</td>
</tr>
</tbody>
</table>

- The purpose of the breath test is to determine whether the specific drug, alcohol, may be contributing to the impairment observable in the subject.

- Obtaining an accurate measurement of BAC enables the drug recognition expert to assess
### Aids Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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<tbody>
<tr>
<td>IV-5</td>
<td>whether alcohol may be the sole cause of the observable impairment, or whether it is likely that some other drug or drugs, or other complicating factors are contributing to the impairment.</td>
<td>Remind students that many suspects who are under the influence of drugs other than alcohol also have alcohol in their bodies.</td>
</tr>
</tbody>
</table>

b. **The Interview of the Arresting Officer.**

- In most cases, the subjects you will examine will **not** be people that you arrested.

- The arresting officer may have seen or heard things that would be valuable indicators of the kinds of drugs the subject has ingested.

- The arresting officer, in searching the subject, may have uncovered drug related paraphernalia, or even drugs themselves.

- The arresting officer also may be able to alert you to important information about the suspect’s behavior that could be very valuable for your own safety.

c. **The Preliminary Examination.**

- The preliminary examination is your first opportunity to observe protective gloves must be worn from this portion of the examination.

**IV-6A&B**

(Preliminary Examination)

NOTE: Remind students that protective gloves must be worn from this portion of the examination.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>the subject closely and directly.</td>
<td></td>
<td>Analog: The preliminary examination is a &quot;fork in the road.&quot; It can help you decide whether to continue with the drug examination, to pursue a possible medical complication, or to proceed with a DWI (alcohol) case.</td>
</tr>
<tr>
<td>• A major purpose of the preliminary examination is to determine if the subject may be suffering from an injury or some other medical condition not necessarily related to drugs.</td>
<td></td>
<td>Emphasize that the term &quot;preliminary&quot; does not imply &quot;unimportant&quot;. Very valuable evidence often comes to light during the preliminary examination.</td>
</tr>
<tr>
<td>• Another major purpose of the preliminary examination is to begin systematically assessing the suspect's appearance, behavior and automatic bodily responses for signs of drug induced impairment.</td>
<td></td>
<td>While you are assessing the subject's tracking ability, you can also perform a preliminary assessment of whether Horizontal Gaze Nystagmus is present in the subject's eyes. In particular, if the nystagmus or &quot;jerking&quot; is observed, an initial estimation of the angle of onset can be made. The approximate angle of onset may help to determine whether the subject has consumed some drug other than alcohol.</td>
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<tr>
<td>• The preliminary examination consists of a series of questions dealing with possible injuries or medical problems; observations of the subject's face, speech and breath; pupil size and tracking ability; initial checks of the subject's eyes; and, an initial examination of the subject's pulse.</td>
<td></td>
<td>Emphasize that courts generally accept these questions as not being in conflict with the suspect's Constitutional rights. However, the students must comply with their own departments' policies as to whether</td>
</tr>
</tbody>
</table>
### d. Examinations of the Eyes.
- Certain Drugs produce very easily observable effects on the eyes.

- One of the most dramatic of these effects is **nystagmus**, which means an involuntary jerking of the eyes.

- Persons under the influence of alcohol usually will exhibit **Horizontal Gaze Nystagmus**, which is an involuntary jerking of the eyes occurring as the eyes gaze to the side.

- Alcohol is not the only drug that causes Nystagmus.

- **Horizontal Gaze Nystagmus** is not the only observable effect on the eyes that will be caused by various drugs.

### Ask students: "What do we look for, in a subject's eyes, to determine if he or she may be under the influence of alcohol?"

Prove, as necessary, to draw out the response "nystagmus".

---

### e. Divided Attention Psychophysical tests.

- Point out that the examinations of the eyes will be covered in much greater depth subsequently.

- **Ask students:** "What does 'divided attention' mean?"
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td>All drugs that impair driving ability will also impair the subject's ability to perform certain carefully designed divided attention tests.</td>
<td>Probe, as necessary, to draw out responses indicating the concept of &quot;concentrating on more than one thing at a time&quot;.</td>
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<td>These tests are familiar to you in the context of examining alcohol impaired subjects.</td>
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<td>The same tests are very valuable for disclosing evidence of impairment due to drugs other than alcohol.</td>
<td>Point out that students will have opportunities to practice administering these tests subsequently in the course.</td>
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<tr>
<td></td>
<td>The divided attention tests used in the DEC examination include the Romberg Balance; the Walk and Turn; One Leg Stand and the Finger to Nose.</td>
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<tr>
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<td>Many categories of drugs affect the operation of the heart, lungs and other major organs of the body.</td>
<td></td>
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<td></td>
<td>These effects show up during examination of the subject's vital signs.</td>
<td>Point out that examinations of vital signs will be covered in depth subsequently, and that students will have ample opportunity to practice measuring vital signs.</td>
</tr>
</tbody>
</table>

f. Examinations of Vital Signs.

IV-9A&B (Vital Signs Exams)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV-10A&amp;B (Dark Room Exams)</td>
<td>The vital signs that are reliable indicators of drug influence include blood pressure, pulse, and temperature.</td>
<td></td>
</tr>
<tr>
<td>g. Dark Room Examinations</td>
<td>Many categories of drugs affect how the pupils will appear, and how they respond to light.</td>
<td></td>
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<tr>
<td></td>
<td>Certain kinds of drugs will cause the pupils to widen dramatically, or dilate.</td>
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<tr>
<td></td>
<td>Some other drugs cause the pupils to narrow, or constrict.</td>
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<td></td>
<td>By systematically changing the amount of light entering the subject's eyes, we can observe the pupils' appearance and reaction under controlled conditions.</td>
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<tr>
<td></td>
<td>We carry out these examinations in a dark room, using a penlight to control the amount of illumination entering the subject's eyes.</td>
<td>Exhibit a penlight.</td>
</tr>
<tr>
<td></td>
<td>We use a device called a pupillometer to estimate the size of the subject's pupils.</td>
<td>Exhibit a pupillometer.</td>
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<tr>
<td></td>
<td>Point out that the pupillometer has a series of circles or semi circles of various sizes.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>- Other examinations are also conducted in the darkroom, using the penlight: i.e., examination of the nasal area and mouth for signs of drug use and for concealed contraband.</td>
<td>By lining the circles up along side the subject's pupil, the pupil's size can be determined.</td>
</tr>
<tr>
<td></td>
<td>**h. Examination for **Muscle <strong>Tone.</strong></td>
<td><strong>Point out</strong> that students will have several opportunities to practice conducting dark room examinations subsequently in the course.</td>
</tr>
<tr>
<td></td>
<td>- Certain categories of drugs can cause the user's muscles to become markedly tense, and rigid. Others may cause flaccidity, or &quot;rub-bery-like&quot; muscle tone.</td>
<td><strong>Point out</strong> that examination for muscle tone will be covered in greater depth subsequently in the course.</td>
</tr>
<tr>
<td></td>
<td>- Evidence of this muscle tone may come to light when the subject attempts to perform the divided attention test.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Evidence of muscle tone can also be observed when taking the subject's pulse, blood pressure or while examining for injection sites.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>**i. Examination for **Injection <strong>Sites.</strong></td>
<td><strong>Ask students:</strong> &quot;What drug is most often associated with injection via hypodermic needle?&quot;</td>
</tr>
<tr>
<td></td>
<td>- Certain drugs are commonly injected by their users, via hypodermic needles.</td>
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</tbody>
</table>
Heroin is probably most commonly associated with injection, but several other types of drugs also are injected by many users.

Uncovering injection sites on a subject provides evidence of possible drug use.

**j. Suspect's statements and other observations.**

- At this point in the examination, the trained DRE should have reasonable grounds to believe that the suspect is under the influence of a drug or drugs.

- The DRE should also have at least an articulable suspicion as to the category or categories of drugs causing the impairment.

- The DRE should proceed to interview the suspect to confirm their opinion concerning the drug category or categories involved.

- The DRE must carefully record the suspect's statements, and any other observations that may constitute relevant evidence of drug induced impairment.

Emphasize that any such interview can proceed only in conformance with formal admonition and strict observance of the suspect's Constitutional rights.

Point out that the appropriate procedures for interviewing suspects vary with the probable category or categories of drugs involved.
<table>
<thead>
<tr>
<th>Aids</th>
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</thead>
</table>
| k. **Opinion of Evaluator** | Based on all of the evidence and observations gleaned from the preceding ten steps, the DRE must reach an informed conclusion as to:  
- whether the subject is under the influence of a drug or drugs  
- if so, the probable category or categories of drugs causing the impairment | Solicit students' comments and questions concerning this preview of the Drug Evaluation and Classification procedures. |
| IV-14 (Opinion of Evaluator) | The DRE must record a narrative summary of the facts forming the basis for their conclusion. | |
| l. **Toxicological Examination** | The toxicological examination is a chemical test or tests designed to obtain scientific, admissible evidence to substantiate the DRE's conclusion. | |
| IV-15 (Toxicological Examination) | Departmental policy and procedures must be followed in requesting, obtaining and handling the toxicological sample. | |
### B. Interview of the Arresting Officer

1. The purpose of the interview of the arresting officer is to obtain a summary of the subject’s actions, behaviors, etc. that led to the arrest and the suspicion that drugs other than alcohol may be involved.

2. Issues concerning the subject's behavior.
   a. Was the subject operating a vehicle?
   b. What actions, maneuvers, etc. were observed?
   c. Was there a collision? If yes, was the subject injured?
   d. Was the subject observed smoking, drinking or eating?
   e. Was the subject apparently inhaling any substance?
   f. How did the subject respond to the arresting officer’s command to stop?
   g. Did the subject attempt to conceal or throw away any items or materials?
   h. What has been the subject’s attitude and demeanor during contact with the

---

**Instructor Notes**

Emphasize that DREs should form the habit of posing explicit questions to arresting officers using a systematic process. A cursory or open ended interview (e.g., "What do we have here?") may fail to elicit some relevant information, because arresting officers won't always know what is relevant to a drug examination.

Ask students to suggest any other questions that might be relevant concerning the
<table>
<thead>
<tr>
<th>Aids</th>
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<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>arresting officer and have there been any changes?</td>
<td>arresting officer's observations of the subject's behavior. Note: Remind the students that they are acting as investigators and advisors to the arresting officers.</td>
</tr>
<tr>
<td>IV-16C</td>
<td>3. Issues concerning the subject’s statements.</td>
<td></td>
</tr>
<tr>
<td>(Interview: Statements)</td>
<td>a. Has the subject complained of an illness or injury?</td>
<td></td>
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<tr>
<td></td>
<td>b. Has the subject used any &quot;street terms&quot; or slang associated with drugs or drug paraphernalia?</td>
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<td></td>
<td>c. How has the subject responded to the arresting officer's questions?</td>
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<td></td>
<td>d. Does the subject's speech appear to be slurred, slow, rapid, thick, mumbled, etc.?</td>
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<tr>
<td></td>
<td>e. What, specifically, has the subject said to the arresting officer?</td>
<td>Ask students to suggest any other questions that might be relevant concerning statements the subject made in the arresting officer's presence.</td>
</tr>
<tr>
<td>IV-16D</td>
<td>4. Issues concerning physical evidence.</td>
<td></td>
</tr>
<tr>
<td>(Interview: Physical Evidence)</td>
<td>a. What items or materials were uncovered during the search of the subject or vehicle?</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>b. Were any smoking paraphernalia uncovered?</td>
<td>NOTE: Emphasize that the subject should be requested to submit to a breath test, if that has not already been done.</td>
</tr>
<tr>
<td></td>
<td>c. Were any injection materials, i.e., needles, syringes, leather straps, rubber tubes, spoons, bottle caps, etc. found?</td>
<td>Ask students to suggest any other relevant questions concerning physical evidence.</td>
</tr>
<tr>
<td></td>
<td>d. Were there any balloons, plastic bags, small metal foil wrappings, etc. found?</td>
<td>Solicit students' comments and questions concerning the interview of the arresting officer.</td>
</tr>
<tr>
<td></td>
<td>e. What was the subject's blood alcohol concentration?</td>
<td></td>
</tr>
</tbody>
</table>

C. The Preliminary Examination

1. The preliminary examination consists of:
   a. Questions
   b. Observations of face, breath and speech.
   c. Initial checks of the eyes.
   d. The initial check of the subject's pulse.

Point out that the pulse check actually is part of the examination of the subject's vital signs. Pulse is checked three times.
<table>
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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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<tbody>
<tr>
<td></td>
<td>2. The questions deal with injuries or medical problems the subject may have. They include:</td>
<td>during the drug influence evaluation.</td>
</tr>
<tr>
<td>IV-18 (Preliminary</td>
<td>a. Are you sick or injured?</td>
<td>Point out that these questions are incorporated into the Standardized Drug Influence Evaluation Form, which the students will use during all of their practice sessions.</td>
</tr>
<tr>
<td>Examination Questions)</td>
<td>b. Do you have any physical defects?</td>
<td>Briefly discuss the relevance of each question.</td>
</tr>
<tr>
<td></td>
<td>c. Are you diabetic or epileptic?</td>
<td>Show video segment, &quot;Preliminary Examination Questions&quot; (optional)</td>
</tr>
<tr>
<td></td>
<td>d. Do you take insulin?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Are you under a doctor or dentist’s care?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f. Are you taking medication?</td>
<td></td>
</tr>
<tr>
<td>IV-19 (Initial Checks of</td>
<td>3. The initial checks of the subject’s eyes include several particularly important items.</td>
<td></td>
</tr>
<tr>
<td>Eyes)</td>
<td>a. Checks of the size of each pupil.</td>
<td></td>
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<tr>
<td></td>
<td>o A pupillometer is utilized for this check</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Point out that, if the two pupils are of unequal size, this may indicate that the subject is suffering from a head injury, brain tumor, or other condition that may require prompt medical attention.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Also point out that the influence of certain categories of drugs may be indicated if the pupils are dilated or constricted.</td>
<td></td>
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</tbody>
</table>
### Aids

<table>
<thead>
<tr>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>b. Assessment of the ability of the eyes to track a moving object.</td>
<td>Demonstrate how to use a stimulus to assess the ability of eyes to track a moving object.</td>
</tr>
<tr>
<td>• The presence of Nystagmus indicates the possible presence of certain categories of drugs.</td>
<td>Point out that, if the two eyes do not exhibit the same tracking ability, this too may indicate a head injury or other medical problem.</td>
</tr>
<tr>
<td>c. Initial estimation of the angle of onset of Horizontal Gaze Nystagmus.</td>
<td>Point out that certain categories of drugs cause Horizontal Gaze Nystagmus. For example, this will be true of CNS Depressants; Dissociative Anesthetics; and certain inhalants.</td>
</tr>
<tr>
<td>• The approximate angle of onset may indicate the presence of some drug other than alcohol.</td>
<td>Remind students that there is a general correspondence, or correlation, between blood alcohol concentration and the onset angle of nystagmus. Generally speaking, the higher the BAC, the earlier will be the angle of onset.</td>
</tr>
<tr>
<td></td>
<td>But, if the subject has also ingested some other drug that also causes Nystagmus, the onset angle may occur even earlier than the Blood Alcohol Concentration would indicate.</td>
</tr>
<tr>
<td></td>
<td>Example: Suppose you are examining a subject who is known to have a BAC of 0.05. Based on that alcohol level alone, you would expect that the angle of onset of nystagmus would be somewhere in the neighborhood of 45 degrees. But if that subject has also ingested a Dissociative</td>
</tr>
</tbody>
</table>
D. Examinations of the Eyes

1. The Examinations of the Eyes consist of three tests:

   a. Horizontal Gaze Nystagmus (HGN).

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Anesthetic, the onset could occur much earlier, perhaps as soon as the eyes start to move to the side.</td>
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<td></td>
<td></td>
<td><strong>Emphasize</strong> if the Nystagmus onset occurs much earlier than would be expected from the alcohol level alone, the DRE should be alert to the possible presence of some drug other than alcohol.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>But also emphasize</strong> the Nystagmus onset angle could correspond very closely to what would be expected from the alcohol level alone even though the subject has ingested large quantities of other drugs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For example, Cannabis, Narcotic Analgesics, CNS Stimulants and Hallucinogens do <strong>not</strong> cause nystagmus, and will <strong>not</strong> affect the onset angle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selectively reveal the items on the slide.</td>
</tr>
</tbody>
</table>

10 Minutes

IV-20 (Eye Examinations)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>• Clue #1 - Lack of smooth pursuit</td>
<td></td>
<td>Point out the importance of checking for each of these clues in every examination of the eyes.</td>
</tr>
<tr>
<td>• Clue #2 - Distinct and sustained nystagmus at maximum deviation</td>
<td></td>
<td>Point out if the subject’s eyes begin to jerk before they have moved to the 30 degree angle, the DRE will not attempt to estimate the angle precisely, but will simply record that the subject exhibits “immediate onset.”</td>
</tr>
<tr>
<td>• Clue #3 - Angle of Onset</td>
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</tbody>
</table>

b. Vertical Gaze Nystagmus.

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<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
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<td></td>
<td></td>
<td>Point out that Vertical Gaze Nystagmus is an involuntary jerking of the eyes (up-and-down) which occurs when the eyes gaze upward at maximum elevation.</td>
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<tr>
<td></td>
<td></td>
<td>Select a student, and demonstrate how to perform a test of Vertical Gaze Nystagmus on that student. The instructor should hold the stimulus horizontally in front of the subject’s face and about 12-15 inches in front of their face. Instruct the person to focus on the center of the stimulus, and to keep the head steady. Raise the stimulus until the subject's eyes are elevated as far as possible. Hold the eyes at that position for a minimum four seconds. If the eyes are observed to jerk noticeably, Vertical Gaze Nystagmus is present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point out that certain types of drugs tend to cause Vertical Gaze Nystagmus, while others</td>
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<tr>
<td><strong>Aids</strong></td>
<td><strong>Lesson Plan</strong></td>
<td><strong>Instructor Notes</strong></td>
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</tr>
<tr>
<td>c. Lack of Convergence.</td>
<td>do not. Also point out that Vertical Gaze Nystagmus tends to develop with relatively high doses of certain drugs for that individual.</td>
<td></td>
</tr>
<tr>
<td><strong>IV-20A</strong> (LOC)</td>
<td>2. Lack of Convergence is checked by first getting the subject to focus on and track the stimulus as it slowly moves in a circle in front of the subject's face.</td>
<td>Point out that Lack of Convergence is the inability of both eyes to draw in toward the center (cross) while fixating on a stimulus being moved in toward the bridge of the nose.</td>
</tr>
<tr>
<td></td>
<td>3. Then, the stimulus is slowly pushed in toward the bridge of the subject's nose and held for approximately one (1) second.</td>
<td>Point out that the circular motion (either left or right) serves to demonstrate that the subject is tracking the stimulus.</td>
</tr>
<tr>
<td></td>
<td>4. Under the influence of certain types of drugs, the eyes may not be able to converge.</td>
<td>Demonstrate this circular motion, using the student volunteer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrate, using the student volunteer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point out that the stimulus does not actually touch the subjects nose, stopping approximately 2 inches from the nose.</td>
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<td></td>
<td></td>
<td>Illustrate on the dry erase board or flip-chart different examples of Lack of Convergence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point out that many people may not be able to converge their eyes.</td>
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</tbody>
</table>
Aids | Lesson Plan | Instructor Notes
---|---|---

**E. Divided Attention Psychophysical Tests**

1. Several Divided Attention tests used for drug examinations are the same familiar tests used for examining alcohol impaired subjects.

   a. Romberg Balance
   b. Walk and Turn
   c. One Leg Stand
   d. Finger to Nose

   Point out that the Romberg test is administered by asking the subject to tilt their head back slightly and close the eyes, and estimate 30 seconds, when they believe 30 seconds have passed they are to tilt their head forward, open their eyes and say “Stop”.

   Point out that the One Leg Stand is administered twice during the DEC drug influence evaluation (once on each leg).

2. Walk and Turn demonstration.

   a. Instructions stage.

   Point out that complete demonstrations of all four tests will be given later. For the present, we will demonstrate only the Walk and Turn.

   Select a student known to be proficient in administering the
<table>
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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>b. Walking stage.</td>
<td>Walk and Turn test. Select another student to serve as the test subject.</td>
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<td></td>
<td></td>
<td>Instruct the student administrator to administer the Walk and Turn test to the student subject.</td>
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<td>Point out that officer safety is of major importance during this test.</td>
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<tr>
<td></td>
<td></td>
<td>Excuse the students, following the demonstration, and thank them for participating.</td>
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<tr>
<td></td>
<td></td>
<td>Point out that students will have numerous opportunities to observe and practice the divided attention tests during the remainder of the course.</td>
</tr>
</tbody>
</table>

**F. Examinations of Vital Signs**

5 Minutes

1. The Vital Signs consist of three things routinely measured in basic physical examinations. Point out that these examinations will be covered in detail in Session VII.

IV-22 (Vital Signs Measurements)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a.</td>
<td>Blood pressure</td>
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</tr>
<tr>
<td>b.</td>
<td>Pulse</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Temperature</td>
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</table>

2. These measurements require some familiar instruments. Display these items.

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<thead>
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</thead>
<tbody>
<tr>
<td>a.</td>
<td>Stethoscope</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>b. Blood pressure cuff and gauge (sphygmomanometer)</td>
<td>NOTE: An oral thermometer with disposable mouthpieces is recommended.</td>
<td></td>
</tr>
<tr>
<td>c. Thermometer</td>
<td>Point out that procedures for measuring blood pressure, pulse and temperature will be explained and practiced subsequently.</td>
<td></td>
</tr>
<tr>
<td>d. Timepiece capable of measuring in seconds.</td>
<td>Solicit students' comments and questions concerning examinations of vital signs.</td>
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### G. Dark Room Examinations

15 Minutes

1. The principal activity that takes place during the dark room examinations is the estimation of pupil size under three lighting conditions.

   a. Room light
   b. Near total darkness
   c. Direct light

2. Another officer should always accompany you and the subject into the dark room.

   Point out that the Room Light measurement is conducted prior to darkening the room lights.

   Point out that this is essential for officer safety. Remind students that no one should be
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<th>Instructor Notes</th>
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<td></td>
<td>carrying a weapon when in the presence of a subject during a drug evaluation and classification examination. <strong>Point out</strong> that some departments require that the subject be handcuffed before going into the darkroom.</td>
<td></td>
</tr>
<tr>
<td>3. Before turning off the lights, you will estimate the size of the subject's pupils under room light.</td>
<td><strong>Point out</strong> that the subject should be instructed not to try to focus on you or on the penlight, but to look &quot;slightly up and at a specific focal point&quot; (straight ahead and several feet away) during the estimation of pupil size.</td>
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</tr>
<tr>
<td>a. You must always first estimate the left pupil, then the right.</td>
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<td></td>
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<tr>
<td>b. You must position the pupillometer alongside the eye to ensure an accurate estimation.</td>
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<tr>
<td>c. After you have completed the room light estimations, turn off the lights and wait 90 seconds to allow your eyes and the subject's eyes to adapt to the dark.</td>
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</tr>
<tr>
<td>4. The next check will be of pupil size under near total darkness.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. You will need the bare minimum amount of light necessary to see the</td>
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<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>subject's pupils and the pupillometer.</td>
<td><strong>Demonstrate</strong> this. <strong>Point out</strong> the reddish glow that emanates. If possible, darken the room and exhibit the reddish glow.</td>
</tr>
<tr>
<td>b.</td>
<td>You can create the necessary light by covering the tip of the penlight with your finger or thumb.</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>The light is then brought up along side the subjects left eye just until it is possible to distinguish the colored portion of the eye (Iris).</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Hold the pupillometer alongside the eye and locate the circle or semi-circle closest in size to the pupil.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Repeat the procedure for the right eye.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The third and final check will be of the pupil size under direct light.</td>
<td><strong>Point out</strong> that it is necessary to maintain reasonably fresh batteries in the penlight.</td>
</tr>
<tr>
<td>a.</td>
<td>You will shine the full strength of the penlight directly into the subject's eye for 15 seconds.</td>
<td><strong>Demonstrate</strong> this, using the student volunteer.</td>
</tr>
<tr>
<td>b.</td>
<td>Do this by bringing the light in from the side of the student's face.</td>
<td><strong>Demonstrate</strong> this. <strong>Point out</strong> that this will illuminate the area that usually would be discolored if the subject had a &quot;black eye&quot;.</td>
</tr>
<tr>
<td>c.</td>
<td>The penlight should be held close enough to the subject's eye so that its beam fills the eye socket.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>d.</td>
<td>When the light is initially shown into the eye, you will check for the pupils reaction to light. Then immediately estimate the pupil size under direct light.</td>
<td>If possible, darken the room and exhibit the illumination of the student volunteer's eye socket.</td>
</tr>
<tr>
<td>6.</td>
<td>Two other activities are conducted while in the darkroom.</td>
<td>Emphasize that it is very important not to position the penlight too closely or too far away, since this will affect the constriction or dilation of the pupil.</td>
</tr>
<tr>
<td>a.</td>
<td>Examination of the nasal area.</td>
<td>Excuse the student and thank him or her for participating.</td>
</tr>
<tr>
<td>b.</td>
<td>Examination of the oral cavity.</td>
<td>Solicit students' comments and questions concerning these checks of pupil size.</td>
</tr>
<tr>
<td>H.</td>
<td><strong>Examination of Muscle Tone</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Starting with the left arm, examine the arm muscles.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Firmly grasp the upper arm and slowly move down to determine muscle tone.</td>
<td>Demonstrate.</td>
</tr>
<tr>
<td>3.</td>
<td>The muscles will appear flaccid, near normal or rigid to the touch.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Examine the right arm in the same fashion.</td>
<td></td>
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</table>
### I. Examination for Injection Sites

1. Some injection sites may be relatively easy to notice.

   a. Persons who frequently inject certain drugs develop lengthy scars, called "tracks", from repeated injections in the same veins.

   b. Injection of certain drugs may result in severe caustic action against the skin and flesh, producing easily observable sores.

2. Often, a fresh injection site may not be readily observable.

3. Frequently, a DRE will locate the injection site initially by touch, running the fingers along such commonly used locations as the neck, forearms, wrists, back of hand, etc.

4. When the DRE locates a possible injection site, a light magnifying lens, commonly known as ski light is used to provide a magnified visual examination.

   **Instructor Notes**

   Point out that injection sites can be observed with some drug categories. Injection sites will be covered in detail in Session XVII.

   Emphasize that gloves should be worn when touching the subject.

   Select a student and demonstrate a tactile search for injection sites.

   "Ski": short for schematic.

   Display this instrument. Demonstrate its use.

   Solicit students' comments and questions concerning examination for injection sites.
5. Hypodermic needles are sized according to **gauge**. The gauge of a needle is a measurement of the inside diameter.

6. During this step, the third pulse is taken.

**J. Suspect Statements**

1. All spontaneous statements and suspect’s response to questions should be documented. Ask additional probing questions as appropriate.

**Instructor Notes**

Point out that the gauge number represents how many needles of that size would be needed to equal one inch. The higher the gauge, the smaller the diameter of the needle, i.e., a 16 gauge needle is 1/16th of an inch.

Note: Give specific examples of probing questions, admissions and denials.

Ask students for additional examples and list all on dry erase board or flip-chart.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tr>
<td></td>
<td>K. <strong>Opinion of Evaluator</strong></td>
<td>Remind students to make sure the suspect has been advised of their constitutional rights.</td>
</tr>
<tr>
<td>20 Minutes</td>
<td>1. By this point in the evaluation, the DRE should have formed an opinion of the category or categories of drugs responsible for any observed impairment.</td>
<td></td>
</tr>
<tr>
<td>IV-27 (Opinion of Evaluator)</td>
<td>2. This opinion is based on the totality of the investigation.</td>
<td></td>
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<tr>
<td></td>
<td>L. <strong>Toxicological Examination</strong></td>
<td>Review the students’ department’s policy and procedures for requesting, obtaining and handling toxicological samples.</td>
</tr>
<tr>
<td>20 Minutes</td>
<td>1. <strong>Toxicology Samples</strong></td>
<td>Ask the students to relate the laws of their state. The implied consent laws may vary significantly from state to state.</td>
</tr>
<tr>
<td></td>
<td>Your State’s implied consent statues will dictate the type of sample you can obtain; urine, blood, breath or saliva.</td>
<td>Have the students discuss their individual laws and possibly write their requirements on the flip-chart for comparison.</td>
</tr>
<tr>
<td></td>
<td>2. <strong>Specimen Containers</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. The type of container for collecting the sample will be dictated by the type of sample taken and the laboratory requirements where it will be tested.</td>
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<tr>
<td></td>
<td>b. Containers should be sterile and have a lid that will seal tightly. Make sure the seal is tight to prevent leakage.</td>
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</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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</tr>
<tr>
<td>c. Containers will differ depending on the type of specimen collected. Containers are uniquely designed to accommodate specific samples such as blood, urine, saliva, breath, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Obtaining a Sample</td>
<td></td>
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</tr>
<tr>
<td>a. Urine - Normally the officer must witness the collection of the sample.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Blood - Should be drawn by a qualified technician and witnessed by the officer.</td>
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<tr>
<td>The sample must include a preservative. This is often pre-packaged in the container intended for this use.</td>
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<tr>
<td>Samples should be refrigerated or frozen as soon as possible to minimize degeneration during storage.</td>
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<tr>
<td>4. Chain of Custody</td>
<td></td>
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<tr>
<td>a. Establish a policy dictating the chain of custody, if one does not already exist.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Establish a policy for your Department on:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The sealing of evidence to include officer identification markings; (i.e. initials, labels, tags and packaging)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
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</tr>
<tr>
<td></td>
<td>Paperwork for the chain of custody and laboratory analysis of your sample.</td>
<td><strong>Note:</strong> These are issues that must be addressed with the individual agencies to insure proper and standardized procedures. Students should follow-up with the appropriate representatives from their agencies to coordinate this activity.</td>
</tr>
<tr>
<td></td>
<td>Transportation of the sample to the laboratory.</td>
<td></td>
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<tr>
<td></td>
<td>Return reporting of the laboratory analysis.</td>
<td></td>
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<tr>
<td></td>
<td>Solicit students' comments and questions concerning toxicological examinations.</td>
<td></td>
</tr>
<tr>
<td>25 Minutes</td>
<td><strong>M. Video Demonstration</strong></td>
<td>Instruct students to refer to their checklists as they watch the video.</td>
</tr>
<tr>
<td></td>
<td>Show the Video &quot;Overview of DRE Procedures&quot;. (This is the same video that is shown during Session II of the Pre-School and subsequently in Session VIII of this school.)</td>
<td>Solicit students' comments and questions.</td>
</tr>
</tbody>
</table>
Topics for Study

1. Give three important reasons for conducting drug evaluation and classification evaluations in a standardized fashion.

   Help avoid mistakes, help promote and maintain professionalism and consistency among DREs, and help secure the court’s acceptance of your testimony.

2. What are the twelve major components of the drug evaluation process?


3. How many times is pulse rate measured during the drug evaluation and classification evaluation?

   Three

4. Are the diameters of a pupillometer's circles/semi-circles indicated in centimeters, millimeters or micrometers?

   Millimeters

5. What formula expresses the approximate statistical relationship between blood alcohol concentration and nystagmus onset angle?

   50 - Angle of Onset = BAC

6. Which of the seven categories of drugs ordinarily do not cause nystagmus?

   CNS Stimulants, Hallucinogens, Narcotic Analgesics, Cannabis

7. How many heel-to-toe steps is the subject instructed to take, in each direction, on the Walk and Turn test?

   Nine

8. What period of time is the subject required to estimate during the Romberg Balance test?

   30 seconds
9. What is **systolic** pressure?

   The force exerted on the arteries when the heart contracts

10. What is the name of the instrument used to measure blood pressure?

    **Sphygmomanometer**

11. Name the four **validated** clues of the One Leg Stand test.

    Sways while balancing, Puts foot down, Hops, Uses arms for balance

12. Name the eight **validated** clues of the Walk and Turn test.

    Loses balance during instructions, Starts too soon, Steps off line,
    Wrong number of steps, Does not touch heel to toe, Raises arms for
    balance, Improper Turn

13. Suppose you have two hypodermic needles, one is 14 gauge, the other is 20 gauge. Which needle has the smaller inside diameter?

    **20 gauge**
Overview of Drug Recognition Expert Procedures

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

- Name the components of the Drug Evaluation and Classification program drug influence evaluation
- State the purpose of each component

Overview of Drug Recognition Expert Procedures (Continued)

- Describe the activities performed during each component
- Correctly answer the "topics for study" questions at the end of this session

The Drug Influence Evaluation

A systematic and standardized process

Drug Influence Evaluation Steps

1. Breath Alcohol Test

2. Interview of the Arresting Officer
3. Preliminary Examination

4. Examination of the Eyes

5. Divided Attention Tests
6. Examination of Vital Signs

7. Dark Room Examinations

8. Examination of Muscle Tone
9. Examination for Injection Sites

RIGHT ARM  LEFT ARM
ATTACHMENTS OF INJECTORS/INJECTION MARKS

10. Suspect's Statements and other Observations

11. Opinion of the Evaluator

12. Toxicological Examination
Interview of Arresting Officer: Issues Concerning Subject’s Behavior

- Was the subject operating a vehicle?
- What actions, maneuvers, etc. were observed?
- Was there a collision?
- Was the subject observed smoking, drinking or eating?

Interview of Arresting Officer: Issues Concerning Subject’s Behavior

- Was the subject inhaling any substance?
- How did subject respond to stop command?
- Did subject try to conceal or throw away any items?
- What has been subject’s attitude and demeanor?

Interview of Arresting Officer: Subject’s Statements

- Has subject complained of illness or injury?
- Has subject used drug-related “street terms” or slang?
- How has subject responded to questions?
- Is subject’s speech slurred, slow, thick, rapid, mumbled, etc.?
- What, specifically, has the subject said?

Interview of Arresting Officer: Physical Evidence

- What items or materials were uncovered during search of subject and vehicle?
- Was any smoking paraphernalia uncovered?
- Were there any injection materials (e.g., needles, syringes, leather straps, rubber tubes, spoons, bottle caps, etc.)?
- Were there any balloons, plastic bags, small metal foil wrappings, etc.?
- What was the subject’s BAC?

Overview of the Preliminary Examination

- Questions
- Observations of face, breath and speech
- Initial checks of the eyes
- First check of the pulse

Preliminary Examination Questions

- Are you sick or injured?
- Do you have any physical defects?
- Are you diabetic or epileptic?
- Do you take insulin?
- Are you under a doctor’s or dentist’s care?
- Are you taking medication?
Initial Checks of the Eyes
- Check pupil size
- Assessment of tracking ability
- Initial estimate of nystagmus angle of onset

Eye Examinations
- Horizontal Gaze Nystagmus
- Vertical Gaze Nystagmus

Eye Examinations (Continued)
- Lack of Convergence

Divided Attention Tests
- Romberg Balance
- Walk and Turn
- One Leg Stand
- Finger to Nose

Vital Signs Measurements
- Blood Pressure
- Pulse
- Temperature

Dark Room Checks of Pupil Size
- Near-Total Darkness
- Direct Light
Examination of Muscle Tone

- Flaccid
- Near Normal
- Rigid

Examination For Injection Sites

Suspect Statements

- Document statements
- Ask additional probing questions in appropriate
- Miranda Rights

Opinion of Evaluator

Based on the totality of the evaluation

Toxicological Examination

- Follow State implied Consent Laws
- Follow Department or Agency Evidence Policies
- Chain of Custody

QUESTIONS?
**DRUG INFLUENCE EVALUATION**

<table>
<thead>
<tr>
<th>Evaluator</th>
<th>DRE No.</th>
<th>Rolling Log No.</th>
<th>Session IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorder/Witness</td>
<td>Crash:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrestee's Name (Last, First M)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Examined/Time/Location</td>
<td>Breath Results:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miranda Warning Giver:</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Time now?</td>
<td>When did last sleep?</td>
<td>How long?</td>
<td></td>
</tr>
<tr>
<td>Do you take insulin?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Are you taking any medication or drugs?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Can't keep balance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ronberg Balance</td>
<td>Walk and Turn test</td>
<td>Can't do test (explain)</td>
<td></td>
</tr>
<tr>
<td>Internal clock:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Room Light</td>
<td>Darkness</td>
<td>Direct</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle tone:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What medication or drug have you been using?</td>
<td>How much?</td>
<td>Time of use?</td>
<td>Where were the drugs used? (location)</td>
</tr>
<tr>
<td>Date/Time of Arrest</td>
<td>Time DRE Notified</td>
<td>Evaluation Start Time</td>
<td>Time Completed</td>
</tr>
<tr>
<td>DRE signature (include rank)</td>
<td>ID #:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opinion of evaluator:</td>
<td>Rule Out</td>
<td>Alcohol</td>
<td>CNS Stimulant</td>
</tr>
<tr>
<td></td>
<td>Medical</td>
<td></td>
<td>CNS Depressant</td>
</tr>
</tbody>
</table>
SESSION V

EYE EXAMINATIONS: NYSTAGMUS, CONVERGENCE, PUPIL SIZE AND REACTION TO LIGHT
SESSION V  EYE EXAMINATIONS: NYSTAGMUS, CONVERGENCE, PUPIL SIZE AND REACTION TO LIGHT

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

- State the purposes of various eye examinations in the DEC drug influence evaluation procedure
- Describe the administrative procedures for the eye examinations
- Describe the clues for each eye examination
- Conduct the eye examinations and note the clues observed
- Prepare complete, clear and accurate records of the eye examinations

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Purpose of the Examinations</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Procedures and Clues</td>
<td>o Instructor Led Demonstrations</td>
</tr>
<tr>
<td>C. Demonstrations</td>
<td>o Student Led Demonstrations</td>
</tr>
<tr>
<td>D. Documentation Procedures</td>
<td>o Students' Hands On Practice</td>
</tr>
<tr>
<td>E. Practice</td>
<td>o Reading Assignments</td>
</tr>
</tbody>
</table>
### Aids | Lesson Plan | Instructor Notes
--- | --- | ---
V-1 (Title) | EYE EXAMINATIONS | Total Lesson Time: Approximately 105 Minutes
V-2A&B (Session Objectives) | Display Session Title
V-3 (Eye Exams) | Session title on wall chart.

#### A. Purposes of the Eye Examinations

1. The principle purpose of all of the eye examinations is to obtain articulable facts indicating the presence or absence of specific categories of drugs.
   
   a. Certain drug categories usually cause the eyes to react in specific ways.
   
   b. Other drug categories usually do not cause those reactions.

2. The tests of **Horizontal and Vertical Gaze Nystagmus** provide important indicators of the drug categories that may or may not be present.
   
   a. If HGN is observed, it is likely that the subject may have ingested alcohol or another CNS Depressant, an Inhalant, a Dissociative Anesthetic, or a combination of those.

   Ask students “What causes Horizontal Gaze Nystagmus?” Alcohol and certain other drugs will cause Horizontal Gaze Nystagmus.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. If Vertical Gaze Nystagmus is observed, the implication may be that the subject ingested a large dose of alcohol for that individual, a Dissociative Anesthetic, such as PCP, or other Depressants or Inhalants.</td>
<td><strong>Point out</strong> that it is very unlikely that a subject would exhibit Vertical Gaze Nystagmus without also exhibiting HGN.</td>
</tr>
<tr>
<td></td>
<td>c. By comparing the subject's blood alcohol concentration with the angle of onset of Horizontal Gaze Nystagmus, it may be possible to determine that alcohol is or is not the sole cause of the observed Nystagmus.</td>
<td><strong>Clarification:</strong> If the onset angle is significantly inconsistent with the BAC, the implication may be that the subject has also taken a Dissociative Anesthetic, such as PCP, an inhalant, or some CNS Depressant other than alcohol.</td>
</tr>
<tr>
<td></td>
<td>d. The consistency of onset angle and BAC can be compared using the following formula: [ BAC = 50 - A ]</td>
<td><strong>Write</strong> the formula on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>Note: Emphasize that this is not an absolute mathematical formula.</td>
<td><strong>Note:</strong> Emphasize that this is not an absolute mathematical formula.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> BAC = 100 x blood alcohol (i.e. if blood alcohol is 0.10, BAC = 10)</td>
<td><strong>Explanation:</strong> BAC = 100 x blood alcohol (i.e. if blood alcohol is 0.10, BAC = 10)</td>
</tr>
<tr>
<td></td>
<td>( A = \text{onset angle (in degrees)} )</td>
<td>( A = \text{onset angle (in degrees)} )</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> If onset angle is 35 degrees, then BAC = 50 - 35 = 15.</td>
<td><strong>Example:</strong> If onset angle is 35 degrees, then BAC = 50 - 35 = 15.</td>
</tr>
<tr>
<td></td>
<td>The corresponding blood alcohol concentration would be approximately 0.15.</td>
<td>The corresponding blood alcohol concentration would be approximately 0.15.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>------</td>
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</tr>
<tr>
<td>e.</td>
<td>Keep in mind that this formula is only a statistical approximation. It is <strong>not</strong> an exact relationship for all subjects at all times.</td>
<td><strong>Emphasize this point:</strong> The formula can easily be &quot;off&quot; by 0.05 or more, even though the subject has consumed no drug other than alcohol.</td>
</tr>
<tr>
<td>f.</td>
<td>The purpose of comparing BAC and onset angle is to obtain a gross indication of the possible presence of another CNS Depressant, a Dissociative Anesthetic such as PCP, or an Inhalant.</td>
<td><strong>Emphasize</strong> that many other facts will also be considered that will help to determine whether Dissociative Anesthetics, inhalants or CNS Depressants may be present.</td>
</tr>
<tr>
<td>3.</td>
<td>The check for <strong>Lack of Convergence</strong> can provide another clue as to the possible presence of Depressants, a Dissociative Anesthetic, or Inhalants.</td>
<td><strong>Point out</strong> that a DRE might begin to suspect the presence of Cannabis if Lack of Convergence was observed but <strong>no</strong> nystagmus was observed.</td>
</tr>
<tr>
<td>4.</td>
<td>Lack of Convergence is also an indicator of the possible presence of Cannabis.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The checks of <strong>pupil size and reaction to light</strong> provide useful indicators of the possible presence of many drug categories.</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>CNS Depressants, CNS Stimulants and Narcotic Analgesics will normally cause the pupils to react very slowly or not visibly at all to light.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>CNS Stimulants and Hallucinogens normally will cause the pupils to dilate.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>c. Cannabis normally causes dilation of the pupils, although this isn't always observed.</td>
<td><strong>Point out</strong>: pupil dilation due to cannabis isn't always observed in laboratory studies, but may be due to that lab dose levels are less than &quot;street&quot; doses.</td>
</tr>
<tr>
<td></td>
<td>d. Some specific Inhalants may cause pupil dilation.</td>
<td></td>
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<tr>
<td></td>
<td>e. Narcotic Analgesics will normally cause observable constriction of the pupils.</td>
<td></td>
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<tr>
<td></td>
<td><strong>6. You will also check for hippus and rebound dilation.</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. &quot;Hippus&quot; means a rhythmic pulsating of the pupils as they dilate and constrict within fixed limits.</td>
<td></td>
</tr>
<tr>
<td>V-4 (Hippus)</td>
<td>b. Hippus occurs under various conditions, including – at times – withdrawal from Narcotic Analgesics</td>
<td><strong>Note</strong>: Instructors are encouraged to use additional visual aids to demonstrate if necessary (i.e. balloon, videos, etc.).</td>
</tr>
<tr>
<td>V-5 (Rebound)</td>
<td>c. &quot;Rebound dilation&quot; is a period of constriction followed by dilation with a change equal to or greater than 2 mm. The final size determination being estimated at the end of a 15-second time period in which the light from the penlight is directed into the eye.</td>
<td><strong>Point out</strong> that these terms are defined in the glossary at the front of the Student's Manual.</td>
</tr>
<tr>
<td></td>
<td>d. Rebound dilation has been reported with persons under the influence of Cannabis.</td>
<td><strong>Point out</strong> that Hippus and Rebound Dilation will not be present together or at the same time.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Solicit students' comments and questions concerning the purposes of the eye examinations.</strong></td>
</tr>
</tbody>
</table>
Aids | Lesson Plan | Instructor Notes
--- | --- | ---

**B. Procedures and Cues**

1. Horizontal Gaze Nystagmus test consists of three separate checks, administered independently to each eye.  

   - a. The first check is for "lack of smooth pursuit".
      
      o If the subject is wearing eyeglasses, have him or her remove them.
      
      o If the subject is wearing contact lenses, note that fact on the report, but don't have the subject remove them.
      
      o Position the stimulus approximately 12 - 15 inches in front of subject's nose.
      
      o Hold the tip of the stimulus slightly above the level of the subject's eye.
      
      o Instruct the subject to hold the head still and follow the stimulus with the eyes.

   - **Remind** students that prior to checking for the three clues of nystagmus, they need to check for equal pupil size, equal tracking and resting nystagmus.

   - Select a student, and demonstrate the first check of HGN on that student.

   - Note: Research and testing has proven that contacts will not interfere with the HGN test or cause nystagmus.

   - Point out that this procedure ensures that the subject’s eyes will be wide open and easy to observe.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Move the stimulus smoothly, all the way to the subject’s left side and back all the way to the right side.</td>
<td>o Make at least two complete passes of the stimulus: to the left side, to the right side, back to the left side, and finally back to the right side.</td>
<td>Point out that the stimulus should be moved at a speed that requires approximately 2 seconds to bring it from the center out all the way to the side. It should then be moved from side to side at the same speed. This means it should take approximately 4 seconds to move from the extreme left to the extreme right.</td>
</tr>
<tr>
<td>o When doing this, don't pause at the center of the subject's face; move all the way to the left, then all the way to the right, then again all the way to the left and back all the way to the right, in a smooth, continuous motion.</td>
<td>b. While the eye is moving, examine it for evidence of a lack of smooth pursuit.</td>
<td>Use these or similar analogies:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) A smoothly pursuing eye will move without friction, much the way that a windshield wiper glides across the windshield when it is raining steadily. An eye showing lack of smooth pursuit will move in a fashion similar to a wiper across a dry windshield.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) A smoothly pursuing eye will roll in the socket the way that a marble or ball bearing would glide smoothly across a polished pane of glass. An eye exhibiting lack of smooth pursuit will move in a fashion similar to a wiper across a dry windshield.</td>
</tr>
</tbody>
</table>
smooth pursuit would move more like that marble rolling over a sheet of heavy gauge sandpaper.

Excuse the student volunteer and thank him or her for participating.

Instruct students to work in pairs, taking turns checking each other's eyes for lack of smooth pursuit.

Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 2 minutes.

Select a student and demonstrate the second check of HGN on that student.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>carefully for any jerking that may be present.</td>
<td>Point out that for this to be a clue, the nystagmus (jerking) must be <strong>distinct</strong> and <strong>sustained</strong>.</td>
</tr>
<tr>
<td>o</td>
<td>When you have completed this check for the left eye, repeat the process for the right eye. Then, do it once again for the left eye, and again for the right, to verify that distinct and sustained nystagmus is present.</td>
<td>Point out that people exhibit slight jerking of the eye at maximum deviation, even when unimpaired, but this will not be evident or sustained for more than a few seconds. When impaired by alcohol and “D.I.D.” drugs, the jerking will be larger, more pronounced, sustained for more than 4 seconds, and easily observable.</td>
</tr>
<tr>
<td>f.</td>
<td>With this cue, the examiner looks for a <strong>very distinct</strong>, unmistakable jerking.</td>
<td>Excuse the student volunteer and thank him or her for participating.</td>
</tr>
<tr>
<td></td>
<td>o A slight or barely visible tremor is not sufficient to consider this clue present.</td>
<td><strong>Instruct</strong> students to work in pairs, taking turns checking each other's eyes for distinct and sustained nystagmus at maximum deviation.</td>
</tr>
<tr>
<td></td>
<td>o A definite, sustained jerking must be seen.</td>
<td><strong>Monitor</strong>, coach and critique the students' practice.</td>
</tr>
<tr>
<td>g.</td>
<td>Students' initial practice of the check for distinct and sustained nystagmus at maximum deviation.</td>
<td>Allow this practice to continue for only about 2 minutes.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
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</tr>
<tr>
<td>V-6C (Angle of Onset)</td>
<td>h. The final check is for the &quot;angle of onset&quot;.</td>
<td>Select a student and demonstrate the third check of HGN on that student.</td>
</tr>
<tr>
<td></td>
<td>o Position the stimulus as before.</td>
<td>Note: Stimulus should be moved at a speed that requires approximately four seconds to travel from center all the way out to the side.</td>
</tr>
<tr>
<td></td>
<td>o <strong>Slowly</strong> move the stimulus to the subject’s left side, carefully watching the eye for the first sign of jerking.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o When you think that you see the eye jerk, stop moving the stimulus and hold it perfectly still.</td>
<td><strong>Point out</strong> that, if the eye is not jerking, it will be necessary to resume moving the stimulus slowly to the side, again observing for the first sign of jerking.</td>
</tr>
<tr>
<td></td>
<td>o Verify that the eye is, in fact, jerking.</td>
<td><strong>Point out</strong> that angle estimation simply requires practice.</td>
</tr>
<tr>
<td></td>
<td>o Once you have established that you have located the point of onset, estimate the angle.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Then, repeat the process for the right eye.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Then, again check onset for the left eye, and again for the right.</td>
<td><strong>Exhibit</strong> a template.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Point out</strong> that the template will be used during practice. Excuse the student volunteer and thank them for participating.</td>
</tr>
</tbody>
</table>
### Lesson Plan

#### i. Students' initial practice of angle estimation.

- **Emphasize** that if the clues of Horizontal Gaze Nystagmus are markedly different for the two eyes, a neurological or other medical problem (such as a head injury) may be present.

- **Instruct** students to work in pairs, taking turns estimating angles of each other's eyes.

- **Instruct** students that they are to try to draw their partners' eyes to three different angles:
  - 30 degrees
  - 35 degrees
  - 40 degrees

- Students will check their accuracy using the template.

- **Monitor**, coach and critique the students' practice.

- Allow this practice to continue for only about 3 minutes.

#### 2. The Vertical Gaze Nystagmus test is very simple, and consists of a single check.

- **Select** a student and demonstrate the Vertical Gaze Nystagmus test on the student.

  - **Position the stimulus horizontally**, approximately 12 -15 inches in front of the subject's nose.

  - **Instruct** the subject to hold the head still and follow the stimulus with the eyes only.

  - **Raise** the stimulus until the subject's eyes are elevated as far as possible.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td>Watch closely for evidence of jerking.</td>
<td>Point out that the examiner should keep the subject’s eyes elevated for approximately four (4) seconds to verify that the jerking really is present.</td>
</tr>
<tr>
<td>e.</td>
<td>Students' initial practice of the Vertical Gaze Nystagmus test.</td>
<td>Excuse the student volunteer and thank them for participating.</td>
</tr>
<tr>
<td></td>
<td>Instruct</td>
<td><strong>Instruct</strong> students to work in pairs, taking turns administering the Vertical Gaze Nystagmus test to each other.</td>
</tr>
<tr>
<td></td>
<td>Monitor, coach and critique the students' practice.</td>
<td><strong>Monitor</strong> coach and critique the students' practice.</td>
</tr>
<tr>
<td></td>
<td>Allow this practice to continue for only about 2 minutes.</td>
<td><strong>Select</strong> a student and demonstrate the test for Lack of Convergence on that student.</td>
</tr>
</tbody>
</table>

3. The test for Lack of Convergence is also very simple.

|      | Lack of Convergence means an inability to cross the eyes. |
|      | Position the stimulus approximately 12-15 inches in front of the person’s face. |
|      | Instruct the person to hold their head still and follow the stimulus with the eyes only. |
|      | Keep the object 12-15 inches away from the person’s nose, and start to move the stimulus slowly in a circle, approximately the same size |
|      | Point out that this initial circular motion helps to verify that the subject has focused on the stimulus and is able to track it. Emphasize that it doesn't matter whether the |
as the subject’s face.

e. Once you have verified that the subject is tracking the stimulus, move it slowly and steadily toward the bridge of the nose.

   Note: Hold stimulus near the bridge of nose for one (1) second. The stimulus should not come any closer than approximately two (2) inches from the bridge of the nose.

f. Carefully observe the person's eyes to determine whether both eyes converge.

Excuse the student volunteer and thank them for participating.

g. Students' initial practice of the test for Lack of Convergence.

Instruct students to work in pairs, taking turns testing each other's eyes for Lack of Convergence.

Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 2 minutes.

4. Estimating Pupil Size

   a. The pupils of our eyes continually adjust in size to accommodate different lighting conditions.

   b. We use a device called a pupillometer to estimate the size of the subject’s pupils.

Exhibit a pupillometer
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c. The pupillometer is held alongside the subject’s eye, moved up and down until the circle or semi-circle closest in size to the pupil is located.</td>
<td>Demonstrate the positioning of the pupillometer.</td>
</tr>
<tr>
<td></td>
<td>d. Pupil size estimations are recorded as the numeric value that corresponds to the diameter of the circle or semi-circle that is closest in size to the subject’s pupil in each lighting condition.</td>
<td>Select a student and demonstrate pupil size estimation using the student. Explain to the students that “Accommodation Reflex” is an adjustment of the eyes for viewing at various distances. Meaning the pupils will automatically constrict as objects move closer and dilate as objects move further away. This should not be confused with pupillary light reflex which is the pupil’s normal reaction to changes in light. Demonstrate the Accommodation Reflex by having the students focus on an object very close and one at a distance.</td>
</tr>
<tr>
<td></td>
<td>e. Pupil sizes are estimated under three different lighting conditions.</td>
<td>Write on the dry erase board or flip-chart “The Three Lighting Conditions.”</td>
</tr>
<tr>
<td></td>
<td>o Room Light</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Near Total Darkness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Direct Light</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Estimation of Pupil Size under Room Light.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>a.</td>
<td>The pupils are examined in room light prior to darkening the room.</td>
<td>Point out that since room lighting conditions can vary considerably and often cannot be controlled, the range of pupil sizes may be broad.</td>
</tr>
<tr>
<td>b.</td>
<td>Student’s initial practice of pupil size estimation.</td>
<td>Instruct students to work in pairs, taking turns checking each other's pupils.</td>
</tr>
<tr>
<td>c.</td>
<td>After you have completed the pupil size estimations in room light, you must darken the room, wait 90 seconds, and then proceed with the darkroom exam.</td>
<td>Monitor, coach and critique the students' practice. Allow this practice to continue for only about 2 minutes.</td>
</tr>
<tr>
<td>6.</td>
<td>Estimation of Pupil Size under Near Total Darkness.</td>
<td>Select a student to participate in demonstrations of darkroom pupil estimations.</td>
</tr>
<tr>
<td>a.</td>
<td>For the check under near total darkness completely cover the tip of the penlight with your finger or thumb, so that only a reddish glow and no white light emerges.</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td>b.</td>
<td>Bring the glowing tip up toward the subject’s left eye until you can just distinguish the pupil from the colored portion of the eye (iris).</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td>c.</td>
<td>Continue to hold the glowing red tip in that position and bring the pupillometer up alongside the subject’s left eye and locate the circle or semi-circle that is closest in size to the pupil.</td>
<td>Demonstrate this.</td>
</tr>
</tbody>
</table>
### Aids Lesson Plan

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td>Repeat this procedure for the subject’s right eye.</td>
</tr>
</tbody>
</table>

#### 7. Estimation of Pupil Size under Direct Light.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Bring the penlight from the side of the subject’s face and shine it directly into their left eye. <strong>Demonstrate this.</strong></td>
</tr>
<tr>
<td>b.</td>
<td>Position the penlight so that it illuminates <strong>and approximately fills</strong> the subject’s eye socket. <strong>Demonstrate this.</strong> <strong>Emphasize</strong> that the penlight should be positioned so that the beam just &quot;fits&quot; the eye socket.</td>
</tr>
<tr>
<td>c.</td>
<td>Hold the penlight in that position for 15 seconds, and bring the pupillometer up alongside the left eye. <strong>Demonstrate this.</strong></td>
</tr>
<tr>
<td>d.</td>
<td>Find the circle or semi-circle that is closest in size to the pupil. <strong>Demonstrate this.</strong></td>
</tr>
<tr>
<td>e.</td>
<td>Repeat this procedure for the subject’s right eye. <strong>Remind</strong> students to position the penlight so that the beam exactly &quot;fits&quot; the eye socket when the beam is brought directly into the eye. <strong>Monitor</strong>, coach and critique the students' practice. <strong>Allow the practice to continue for only about 2 minutes.</strong> <strong>Solicit</strong> students' comments and questions concerning the eye examinations.</td>
</tr>
</tbody>
</table>
8. Normal Sizes for the Pupil

a. For most people, even under very bright light the pupils will not constrict much below a diameter of 2.5 millimeters (mm) or dilate to a diameter of not more than 8.5 mm in near total dark conditions.

Point out that results of studies indicated there are significant differences between the average pupil size in the three test conditions.

Consequently, the use of three distinct pupil size ranges for each of the different testing conditions may be considered more useful in the evaluation to determine impairment vs. non-impairment.

b. For a non-impaired person, the average pupil size and range for room light is approximately 4.0 mm, with an average of normal pupil sizes ranging from 2.5 to 5.0 mm.

c. For a non-impaired person, the average pupil size and range for near total darkness is approximately 6.5 mm with an average range of normal pupil sizes ranging from 5.0 to 8.5 mm.

d. For a non-impaired person, the average pupil size and range for direct light is approximately 3.0 mm with an average range of normal pupil sizes ranging from 2.0 to 4.5 mm.
9. Assessment of the pupil's reaction to light takes place immediately before the check of pupil size under direct light.

a. Once again, start by bringing the uncovered light from the side of the subject's face directly into his or her left eye. **Demonstrate this.**

b. As you bring the beam of light directly into the subject's eye, note how the pupil reacts. **Demonstrate this.**

c. Under ordinary conditions, the pupil should react very quickly, and constrict noticeably when the light beam strikes the eye. **Emphasize:** We consider the pupil's reaction to be **slow** if it takes more than one second to reach full constriction.

d. Under the influence of certain categories of drugs, the pupil's reaction may be very sluggish, or there may be no visible reaction at all.

e. Hold the direct light on the subject's eye for 15 seconds to assess pupil reaction. **Caution should be used by the officer so as not to move the light beam or allow the bulb to change in light intensity.**

f. Also check for hippus or rebound dilation during this 15 seconds period. **Have students work in pairs, checking each others pupil reaction.**

g. When you have completed this process for the left eye, repeat it for the right eye.

h. Students' initial practice in assessing the pupil's reaction to light.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C. Demonstrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 Minutes</td>
<td>Select two students to come before the class.</td>
</tr>
<tr>
<td></td>
<td>1. Demonstration of Horizontal Gaze Nystagmus.</td>
<td>Instruct one student to demonstrate the administration of Horizontal Gaze Nystagmus to the other student.</td>
</tr>
<tr>
<td></td>
<td>a. Check for lack of smooth pursuit.</td>
<td>Coach and critique the student administrator's performance.</td>
</tr>
<tr>
<td></td>
<td>b. Check for distinct and sustained nystagmus at maximum deviation.</td>
<td>Make sure that the student administrator checks both eyes.</td>
</tr>
<tr>
<td></td>
<td>c. Estimation of onset angle.</td>
<td>When the student administrator has completed the HGN test, instruct the student administrator to draw the student subject's eye to an angle of 35 degrees. Check the accuracy of this estimate, using the template.</td>
</tr>
<tr>
<td></td>
<td>2. Demonstration of Vertical Gaze Nystagmus and Lack of Convergence.</td>
<td>Excuse the two students and thank them for participating.</td>
</tr>
<tr>
<td></td>
<td>Select two other students to come before the class.</td>
<td>Instruct one student to check the other for Vertical Gaze Nystagmus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coach and critique the student administrator's performance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instruct the second student to check the eyes of the first student for Lack of Convergence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coach and critique the student administrator's performance.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3. Demonstration of pupil size checks and test for reaction to light.</td>
<td>Excuse the two students and thank them for participating.</td>
<td>Select two other students to come before the class.</td>
</tr>
<tr>
<td>a. Pupil size estimation under room light.</td>
<td>Instruct one student to check the other's pupils under room light.</td>
<td>Coach and critique the student administrator's performance.</td>
</tr>
<tr>
<td>b. Darkroom checks of pupil size.</td>
<td>Coach and critique the student administrator's performance.</td>
<td>Point out that assessment of the pupil's reaction to light takes place in conjunction with the direct light check.</td>
</tr>
<tr>
<td>o near total darkness o direct light</td>
<td></td>
<td>Excuse the two students and thank them for participating.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solicit students' comments and questions concerning these demonstrations of the eye examinations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instruct students to turn to the Standardized Drug Influence Evaluation Form in their manuals.</td>
</tr>
</tbody>
</table>

D. Documentation Procedures

5 Minutes
### Aids

<table>
<thead>
<tr>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A brief examination of the eyes is made during the Preliminary Examination.</td>
<td></td>
</tr>
</tbody>
</table>
| a. Check for equal pupil size.  
 b. Check for resting nystagmus  
 c. Assessment of tracking ability.  
 d. Initial assessment of Nystagmus. | |
| 2. The next section of the form is devoted to the Eye Examinations. | Point out that section of the form.  
 Emphasize that all three checks of the HGN test must be documented for each eye.  
 Point out that "yes" implies that Vertical Gaze Nystagmus was observed, "no" implies that it was not observed.  
 Point out that it will be necessary to diagram the movement of the eyes. |
| a. Horizontal Gaze Nystagmus | |
| b. Vertical Gaze Nystagmus | |
| c. Lack of Convergence | |
| 3. The darkroom eye examinations are documented in a subsequent section of the form. | Point out the location of that section.  
 Emphasize that all darkroom checks of the eyes must be performed and documented independently for each eye.  
 Solicit students' comments and questions concerning procedures for documenting the eye examinations. |
## Aids Lesson Plan

### E. Practice

<table>
<thead>
<tr>
<th>20 Minutes</th>
</tr>
</thead>
</table>

**Instruct** students to practice in pairs.

Each student will conduct a complete set of eye examinations on his or her partner.

Students then will "reverse roles".

Tell the students to record their estimations of their partners' pupil sizes on the standard Drug Influence Evaluation Form.

**Monitor**, coach and critique students' practice.

**Make sure** each student administers a complete series of eye examinations at least once.

### 1. Preliminary eye exams

- **a.** Check for equal pupil size.
- **b.** Check for resting nystagmus.
- **c.** Assessment of tracking ability.
- **d.** Initial estimation of Nystagmus onset angle.

### 2. Eye exams.

- **a.** Horizontal Gaze Nystagmus
- **b.** Vertical Gaze Nystagmus
- **c.** Lack of Convergence

### 3. Pupil Size Estimations

- **a.** Room light
- **b.** Near total darkness
- **c.** Direct light

### 4. Reporting out of Pupil Size estimations.

**NOTE:** If possible, the training room should be at least somewhat darkened for this final stage of practice.

Instructor: While the student's practice is still going on, print the matrix at the end of this session on the dry-erase board or flip-chart.

Tell students that they should refer to the Drug Influence Evaluation forms on which
they recorded their partners' pupil sizes.

Tell the students that we will tabulate the pupil sizes of everyone in the class, for each of the three lighting conditions.

For simplicity, tell the students that we will tabulate the left eye pupil sizes only.

a. Room light tabulation.

Direct the students' attention to the first column of the matrix.

Say: "Let's concentrate now only on the room light estimations."

Ask: "How many of you found that your partners had pupils of 2.0 mm or less in room light?" (Get a show of hands; count them; print the number in the first box of the first column.

Then ask: "How many had partners with a 2.5 mm pupil in room light?" (Count the hands and print the number in the 2nd box.)

Continue this until you get to the last box in the 1st column: "How many had partners with pupils of 8.0 mm or larger?" (Count the hands; print the number.)

b. Near total darkness tabulation.

Repeat this process for each of the other two lighting conditions.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c. Direct light tabulation.</td>
<td>Make appropriate comments about the number of students whose pupils are outside the normal range of size under the various lighting levels.</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Room Light</td>
<td>Near Total Darkness</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>2.0 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0 mm</td>
<td></td>
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<tr>
<td>3.5 mm</td>
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<td>4.0 mm</td>
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<td>4.5 mm</td>
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<td>5.0 mm</td>
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<tr>
<td>5.5 mm</td>
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<td>6.0 mm</td>
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<tr>
<td>6.5 mm</td>
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<tr>
<td>7.0 mm</td>
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<tr>
<td>7.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0 mm</td>
<td></td>
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</tr>
</tbody>
</table>
Session V
Eye Examinations

Eye Examinations: Nystagmus, Convergence, Pupil Size and Reaction to Light

Upon successfully completing this session the student will be able to:
- State the purposes of various eye examinations in the DEC drug influence evaluation procedure
- Describe the administrative procedures for the eye examinations

Eye Examinations: Nystagmus, Convergence, Pupil Size and Reaction to Light (Continued)

- Describe the clues for each eye examination
- Conduct the eye examinations and note the clues observed
- Prepare complete, clear and accurate records of the eye examinations

The Eye Examinations

Hippus

A rhythmic pulsating of the pupils as they dilate and constrict within fixed limits.

Rebound Dilation

A period of constriction followed by dilation with a change equal to or greater than 2 mm.

The final size determination being estimate at the end of the 15 second time period in which the light from the penlight is directed into the eye.
Three Clues of Horizontal Gaze Nystagmus

1. Lack of Smooth Pursuit
2. Distinct and Sustained Nystagmus at Maximum Deviation
3. Angle of Onset of Nystagmus

First Clue:
Lack of Smooth Pursuit

Second Clue:
Distinct and Sustained Nystagmus at Maximum Deviation

Third Clue:
Angle of Onset of Nystagmus

Vertical Gaze Nystagmus

Lack of Convergence
Estimation of Pupil Size

Sample Eye Examination

QUESTIONS?
SESSION VI

PHYSIOLOGY AND DRUGS:
AN OVERVIEW
SESSION VI       PHYSIOLOGY AND DRUGS: AN OVERVIEW

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

- Explain in layman's terms the general concept of human physiology.
- Explain in layman's terms the purpose and functions of major systems in the body (nervous system, circulatory system, respiratory system, etc.).
- Explain in layman's terms how drugs work in the body.
- Explain in general terms how the drug evaluation is used to detect signs or symptoms indicative of drug impairment.
- Correctly answer the "topics for study" questions at the end of this session.

Content Segments                  | Learning Activities
A. Body Systems                   | o Instructor Led Presentations
B. Body Systems and Body Functions Relevant to Drug Evaluations | o Reading Assignments
C. How Drugs Work
D. Physiologic Signs and Symptoms of Drugs or Medical Impairment
E. Medical Conditions
F. Summary
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Minutes</td>
<td>PHYSIOLOGY AND DRUGS: AN OVERVIEW</td>
<td>Total Lesson Time: Approximately 120 Minutes</td>
</tr>
<tr>
<td>VI-1 (Title)</td>
<td></td>
<td>Display Session Title</td>
</tr>
<tr>
<td>VI-2A&amp;B (Session Objectives)</td>
<td></td>
<td>Briefly review the content, objectives and activities of this session.</td>
</tr>
</tbody>
</table>

A. **Introduction**

1. Before we can understand how drugs work we must have a basic understanding of how the body works.

   Point out that it is not necessary to have detailed knowledge of specific functions or medical terminology. Students will not become medical specialists as a result of this limited overview, however, they should be encouraged to learn as much as possible about human physiology through additional instruction and independent reading.

2. We will review general concepts of how the body functions in a "normal" or "standard" human.

   Point out that all human beings are different and a "normal" or "standard" human does not exist. However, experience and scientific studies have produced a range of normal values that can be used for comparison purposes.

3. We will briefly review the chief functions of the body systems.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
</table>
| VI-3 (Bodily Functions) | 4. Primary focus will be on the systems or component parts of those systems that are examined during the drug evaluation. | • Central Nervous System  
• Eyes  
• Blood Pressure and Pulse  
• Balance and Coordination  
• Body Temperature |
<p>| 15 Minutes | B. Human Physiology | |
| VI-4 (Physiology) | 1. Physiology is the study of the functions of living organisms and their parts. | |
| VI-5A (Murders Inc) | 2. A convenient way of discussing human physiology is to list the ten major systems of the body. | Selectively reveal the systems as you discuss each of them. |
| | a. The phrase &quot;MURDERS, INC.&quot; helps us remember the names of the ten systems. | |
| | b. Each letter stands for the name of one system. | |
| VI-5B (The Ten Systems) | 3. M stands for the MUSCULAR SYSTEM. | Point out that we assess the muscular system in the drug influence evaluation when we test coordination and balance by administering divided attention tests, and when we check for muscle rigidity. |
| | a. The body has three different kinds of muscles. | |
| | (1) the heart, or cardiac muscle. | |</p>
<table>
<thead>
<tr>
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<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2) smooth muscles, which control the body's involuntary operations.</td>
<td>Examples: Smooth muscles control breathing, the operation of the pyloric valve (a muscle located at the base of the stomach), dilation and constriction of the pupils, and all other things that we do not consciously control.</td>
</tr>
<tr>
<td></td>
<td>(3) striated muscles, which carry out our voluntary movements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. All three types of muscles are examined at various stages of the drug influence evaluation.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>U is for the URINARY SYSTEM.</td>
<td>Point out that drugs can usually be detected in the urine, and that collection of a urine specimen or other suitable bodily substance is an important part of the drug influence evaluation.</td>
</tr>
<tr>
<td></td>
<td>a. The system consists of two kidneys, the bladder, ureters connecting the kidneys to the bladder, and the urethra, which transports the urine out of the body.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Kidneys filter waste or harmful products, such as drugs and their metabolites, from the blood, and dump these waste products into the bladder.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The first R in &quot;MURDERS, INC.&quot; stands for the RESPIRATORY SYSTEM.</td>
<td>Point out that some drugs cause the user to breathe slowly and shallowly, while others cause rapid breathing.</td>
</tr>
<tr>
<td></td>
<td>a. The major parts of the Respiratory System are the lungs and the diaphragm.</td>
<td></td>
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<tr>
<td></td>
<td>b. The diaphragm is a smooth muscle that draws the air into the lungs and forces it out.</td>
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</tr>
</tbody>
</table>
c. Lungs take in oxygen and transfer it to the blood, and remove carbon dioxide and some other waste products from the blood, and expel them into the outside air.

6. D stands for the DIGESTIVE SYSTEM.

   a. Major components of this system are the tongue, teeth, esophagus, stomach, intestines, liver and pancreas.

   b. The Digestive System breaks down large particles of food, until they are of a size and chemical composition that can be absorbed in the blood.

Remind students that, when drugs are taken orally, they might be retained in the stomach for a while, until any food that is there has been broken down sufficiently to allow passage into the small intestine.

7. E is for the ENDOCRINE SYSTEM.

   a. The Endocrine system is made up of a number of different glands, that secrete hormones.

   b. Hormones are complex chemicals that travel through the blood stream and that control or regulate certain body processes.

INSTRUCTOR, FOR YOUR INFORMATION: The glands that make up the Endocrine System include the Thyroid, Parathyroid, Pituitary and Adrenal glands, as well as portions of the pancreas, testes and ovaries.

Print HORMONES on the dry erase board or flip-chart.

Point out that important clues of drug use, i.e. odors of alcohol beverages, marijuana, chemicals, etc. may be present on a suspect's breath.
<table>
<thead>
<tr>
<th>Aids</th>
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<tbody>
<tr>
<td>c. Some drugs can mimic the effects of certain hormones, or can react with the hormones in ways that alter the hormones' effects.</td>
<td></td>
<td>The functions of the reproductive system fall into two categories: 1) self-producing (cytogenic), and 2) hormone-producing (endocrinic). We are primarily concerned with hormone production since the hormones produced by the reproductive system aid the nervous system in its regulatory role.</td>
</tr>
<tr>
<td>8. The second R in &quot;MURDERS, INC.&quot; stands for the REPRODUCTIVE SYSTEM.</td>
<td></td>
<td>Point out that the Reproductive and Skeletal Systems are the only major components of physiology and that are not directly involved in the drug influence evaluation.</td>
</tr>
<tr>
<td>9. S is for the SKELETAL SYSTEM.</td>
<td></td>
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</tr>
<tr>
<td>a. Consists of bones, cartilage and ligaments.</td>
<td></td>
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<td>b. The Skeletal System provides support to the body, permits movement, and forms blood cells.</td>
<td></td>
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</tr>
<tr>
<td>10. The I in &quot;INC&quot; stands for the INTEGUMENTARY SYSTEM.</td>
<td></td>
<td>Point out that DREs examine the skin for hypodermic injection sites, and for sweating, clamminess, and temperature.</td>
</tr>
<tr>
<td>a. Consists of the skin, hair, finger and toe nails, and accessory structures.</td>
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<td></td>
<td>b. The chief functions of the Integumentary System include protection of the body, control of body temperature, excretion of wastes (i.e. through the sweat) and sensory perception.</td>
<td>EMPHASIZE that the Nervous System is one of the most important components of physiology, as far as the drug influence evaluation is concerned.</td>
</tr>
<tr>
<td></td>
<td>11. N is for the NERVOUS SYSTEM.</td>
<td>CLARIFICATION: Nerves carry messages to the brain from the sense organs (eyes, ears, nose, etc., and also from pain sensors).</td>
</tr>
<tr>
<td></td>
<td>a. This system consists of the brain, the brain stem, the spinal cord and the nerves.</td>
<td>CLARIFICATION: The brain uses nerves to send messages commanding the heart to beat, the fingers to move, the pupils to dilate, etc.</td>
</tr>
<tr>
<td></td>
<td>b. Nerves keep the brain informed of changes in the body's external and internal environments.</td>
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<tr>
<td></td>
<td>c. Nerves also carry messages from the brain to the body's muscles, tissues and organs.</td>
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<tr>
<td></td>
<td>d. The nervous system controls, coordinates and integrates all physiological processes, so that normal body functions can be maintained.</td>
<td></td>
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<tr>
<td></td>
<td>12. C is for the CIRCULATORY SYSTEM.</td>
<td>Point out that this is another very important component of physiology, as far as the drug influence evaluation is concerned.</td>
</tr>
<tr>
<td></td>
<td>a. For our purposes, the most important parts of the Circulatory System are the heart, the blood vessels (e.g., arteries, veins, capillaries, etc.) and the blood.</td>
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<td>Instructor Notes</td>
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<tr>
<td>b.</td>
<td>Blood is the body's primary transport mechanism: it carries food, water, oxygen, hormones, antibodies, etc. to the body's tissues and organs.</td>
<td>Solicit students' comments and questions about &quot;MURDERS, INC&quot;, the ten major systems of human physiology. Point out that much more will be said about the last two systems (Nervous and Circulatory) later in this session.</td>
</tr>
<tr>
<td>c.</td>
<td>Blood is also primarily responsible for carrying heat throughout the body.</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>And, blood is the main transport mechanism for bringing drugs to the brain.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>The heart, of course, pumps the blood, and causes it to circulate through the body.</td>
<td></td>
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</tbody>
</table>

13. Homeostasis

a. Human body is exposed to constantly changing external environment.

b. Changes are neutralized by the internal environment - the blood.

c. Oxygen, foods, water and other substances are constantly leaving body fluids to enter cells, while carbon dioxide and other wastes are leaving the cells to enter these fluids...

d. Yet, the chemical composition of these fluids remains within very narrow limits.

**Homeostasis** is the dynamic balance, or steady state, involving levels of salts, water, sugars and other materials in the body's fluids.
### Aids Lesson Plan Instructor Notes

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<th>e. This phenomenon is called homeostasis.</th>
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<td>Point out that “homeo” means elements and “stasis” means balance.</td>
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<tr>
<td></td>
<td></td>
<td>Point out that the rhythm of the heart, breathing, constancy of body temperature, and the steady level of blood pressure under specific circumstances or conditions are all manifestations of homeostatic mechanisms at work within the body.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drugs interfere with the homeostatic mechanisms and produce signs and symptoms that can be recognized by a trained DRE.</td>
</tr>
</tbody>
</table>

#### 45 Minutes

### C. Major Systems and Body Functions of Concern in Drug Evaluations

1. Heart and circulatory system.
   - a. Circulation is a closed system, round which blood is propelled by contractions of the heart.
   - b. Blood is driven into arteries, arteries divide into smaller and smaller branches and finally into meshwork of fine capillaries which pervade body tissues.
   - c. Meshwork joins up again to form small veins which become larger trunks as they travel centrally towards the heart.

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VI-7 (Basic Plan of Circulatory System)
<table>
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<th>Aids</th>
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<tr>
<td></td>
<td>d. There are two separate circulation systems:</td>
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<td></td>
<td>(1) A systemic circulation concerned with the body as a whole and driven by</td>
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<tr>
<td></td>
<td>the left side of the heart.</td>
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<td></td>
<td>(2) A pulmonary circulation concerned with passage of blood through the</td>
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<td></td>
<td>lungs and driven by the right side of the heart.</td>
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<td></td>
<td>e. The heart is the pump and has two sides:</td>
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<tr>
<td></td>
<td>(1) Left side pumps blood through the aorta and the arteries to the tissues.</td>
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<td></td>
<td>(2) Blood, after passing through the tissues, returns via the veins to the</td>
<td>Consists of the left atrium and ventricle. The upper chamber (atrium) receives</td>
</tr>
<tr>
<td></td>
<td>right side.</td>
<td>the great veins, the lower chamber discharges blood into the great arteries.</td>
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<td></td>
<td>(3) Right side pumps blood through the pulmonary artery to the lungs and</td>
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<tr>
<td></td>
<td>returns it to the left side of the heart again via the four pulmonary veins.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consists of the right atrium and ventricle.</td>
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<tr>
<td></td>
<td></td>
<td>Note: The Pulmonary Artery is the only artery that carries de-oxygenated blood;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>all other arteries carry blood that has received fresh oxygen from the lungs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Likewise, the Pulmonary Vein is the only vein that carries blood rich in oxygen;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>all other veins carry blood depleted of oxygen back to the heart.</td>
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<tr>
<td>f.</td>
<td>The normal heart continues to beat regularly and continuously, with a rest interval never longer than a fraction of a second.</td>
<td>Point out that heart rate is regulated by the autonomic nervous system: sympathetic nerve fibers insure that heart beats fast enough to maintain circulation during any activity. Parasympathetic nerve fibers tend to slow the heart. This coordinated nerve supply assures that the heart does not beat too fast or too slowly.</td>
</tr>
<tr>
<td></td>
<td>(1) Heart rate is the number of beats per minute.</td>
<td>For the DEC program, the normal range is 60-90 pulsation beats per minute.</td>
</tr>
<tr>
<td></td>
<td>(2) Pulse rate is the number of pulsations per minute.</td>
<td>Point out that some people may exhibit irregular (or arrhythmic) heart beats, i.e. where the interval between pulses varies.</td>
</tr>
<tr>
<td></td>
<td>(3) Blood pressure (BP) is the force of the blood circulating in the arteries.</td>
<td>Ask students to define &quot;systolic&quot; and &quot;diastolic&quot;.</td>
</tr>
<tr>
<td></td>
<td>(4) BP is categorized as systolic or diastolic BP.</td>
<td>Point out that physical conditioning can also affect blood pressure and pulse rate.</td>
</tr>
<tr>
<td></td>
<td>(5) Systolic pressure is the maximum force that occurs during contraction.</td>
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<td></td>
<td>(6) Diastolic pressure represents the minimum force that occurs when the heart relaxes.</td>
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<td>(7) Both systolic and diastolic pressures are measured and is recorded as follows: 120 systolic 80 diastolic</td>
<td>Demonstrate proper method of recording on flip chart or dry-erase board.</td>
</tr>
<tr>
<td></td>
<td>Point out that the normal range of BP varies widely based on a number of factors, including age. The normal range of systolic pressure is 120 to 140. The normal range of diastolic is 70 to 90.</td>
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</tbody>
</table>

2. Control systems

a. The functions of the organs of the body are controlled in two ways:

(1) One, by sending "chemical messengers" known as hormones via the blood stream from an endocrine gland where they are produced. This is a function of the endocrine system. Remind students that the hormones modify the activity of specific organs.

(2) Second system of control is by means of the nervous system.

b. A Simplified Concept of a Nerve.

(1) The nerves that carry messages to and from the brain often are pictured as "wires" that carry electrical signals.

2) A more accurate, but still simplified concept would envision a nerve as a series of broken wire segments, with the segments separated by short spaces, or gaps. CLARIFICATION: Nerves are often pictured as telephone or telegraph wires.
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<tbody>
<tr>
<td></td>
<td>(3) We can imagine messages running along the &quot;wire segments&quot; in much the same manner that electrical impulses run along telephone wires.</td>
<td>Point to a &quot;wire segment&quot;.</td>
</tr>
<tr>
<td></td>
<td>(4) When the message reaches the end of the &quot;wire segment&quot;, it triggers the release of chemicals that flow across the gap, and contact the next &quot;wire segment&quot;.</td>
<td>Point to the close up of the gap.</td>
</tr>
<tr>
<td></td>
<td>(5) When the chemical contacts the next wire segment, it generates an electrical impulse which runs along the wire until it reaches the next gap.</td>
<td></td>
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<tr>
<td></td>
<td>(6) At that gap, the message again triggers the release of chemicals that flow across to the next &quot;wire segment&quot;, and the process continues.</td>
<td>Point out that this concept of a nerve as a series of separated &quot;wire segments&quot; is not a true physical model. But it does accurately convey the basic idea of message transmission along nerves. Solicit students' questions about this concept.</td>
</tr>
<tr>
<td></td>
<td>c. In our simple model of nerves, each &quot;wire segment&quot; corresponds to a nerve cell, called a neuron.</td>
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<td></td>
<td>d. The chemical that flows across the gaps separating neurons is called a neurotransmitter.</td>
<td>CLARIFICATION: neurotransmitter are the body's chemical messengers.</td>
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<tr>
<td>VI-11</td>
<td>(How a neurotransmitter works)</td>
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<tr>
<td></td>
<td>e. The body has a number of different neurotransmitter; each carries a different chemical message.</td>
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<tr>
<td>VI-12A</td>
<td>f. Each neuron, or &quot;wire segment&quot; has three main parts: (1) the cell body. (2) the axon. (3) the dendrite.</td>
<td>Point out that by using a baseball analogy, the Axon would be the “pitcher” of the neurotransmitter and the Dendrite is the “catcher” of the neurotransmitter.</td>
</tr>
<tr>
<td>(Nerve Cell)</td>
<td>g. The axon is the part of the neuron that sends out the neurotransmitter, or chemical messenger.</td>
<td>Solicit students' questions about nerve cells (neurons).</td>
</tr>
<tr>
<td></td>
<td>h. The dendrite is the part that receives the neurotransmitter.</td>
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<tr>
<td></td>
<td>i. The gap between two neurons is called a synapse, or synaptic gap.</td>
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<tr>
<td>3. Classifications of Nerves.</td>
<td>a. Some nerves carry messages away from the brain, to the body's muscles and organs.</td>
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<tr>
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<td>(1) These are called Motor, or Efferent nerves.</td>
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<td></td>
<td>(2) The brain uses motor nerves to send commands to the heart to beat, the lungs to</td>
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</tbody>
</table>
b. Other nerves carry messages to the brain, i.e. from the eyes, ears and other senses, from the muscles, etc.

(1) These are called Sensory, or Afferent nerves.

(2) The brain decodes the messages that come along the sensory nerves to monitor the condition of the body and of the outside world.

c. A Fundamental Notion: If something interferes with the messages the brain sends along the motor nerves, the brain's control over the heart, the lungs, the muscles and other organs will be distorted.

d. Another Fundamental Notion: If something interferes with the messages the brain receives from the sensory nerves, the brain's perception of the outside world and of the body's status will be distorted.

e. Focus on the Motor nerves. There are two sub-systems of motor nerves.

(1) The voluntary nerves send messages to the striated muscles that we consciously control.

Point out that, basically, this is how drugs work: they interfere with transmission or reception of the messages that travel along nerves.
(2) The **autonomic** nerves send messages to the muscles and organs that we do not consciously control, i.e. smooth muscle and cardiac muscle.

f. The **Autonomic Sub-system** divides into two groups.

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<tr>
<td>![Dry Erase Board]</td>
<td>(1) The <strong>Sympathetic</strong> nerves command the body to react in response to fear, stress, excitement, etc.</td>
<td>On the dry erase board or flip-chart print the word &quot;autonomic&quot;, and draw two lines from the word one line angling down toward the left, the other angling down toward the right. Write &quot;Sympathetic&quot; at the end of one line, &quot;Parasympathetic&quot; at the end of the other.</td>
</tr>
</tbody>
</table>
| ![Dry Erase Board] | (2) The **Parasympathetic** nerves carry messages that produce relaxed and tranquil activities. | CLARIFICATION: Sympathetic nerves control the body's "fight or flight" responses. EXAMPLES: Sympathetic nerves carry the messages that cause:  
  - blood pressure to elevate  
  - pupils to dilate  
  - sweat glands to activate  
  - hair to stand on end  
  - heartbeat to increase & strengthen  
  - blood vessels of the skin to constrict  
  - the walls of the hollow viscera to relax (inhibiting digestion) |
| ![Dry Erase Board] | | EXAMPLES: Parasympathetic nerves carry messages that cause:  
  - pupils to constrict  
  - heartbeat to slow  
  - peripheral blood vessels to dilate  
  - blood pressure to decrease  
  - digestion to be facilitated |
<table>
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<tr>
<td>g. Certain neurotransmitter (i.e. chemical messengers) aid in the transmission of messages along sympathetic and parasympathetic nerves.</td>
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<tr>
<td>h. Some drugs mimic the action of these neurotransmitters: When taken into the body, these drugs artificially cause the transmission of messages along sympathetic or parasympathetic nerves.</td>
<td></td>
<td>Write &quot;Sympathomimetic&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td>i. Drugs that mimic the neurotransmitter associated with sympathetic nerves are called sympathomimetic drugs.</td>
<td></td>
<td>Ask students to name a category of drugs that would be considered sympathomimetic.</td>
</tr>
<tr>
<td>(1) Sympathomimetic drugs artificially cause the transmission of messages that produce elevated blood pressure, dilated pupils, etc.</td>
<td></td>
<td></td>
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<tr>
<td>(2) Examples: CNS Stimulants, Hallucinogens, and to some extent PCP and Cannabis.</td>
<td></td>
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</tr>
<tr>
<td>j. Drugs that mimic neurotransmitters associated with parasympathetic nerves are called parasympathomimetic drugs.</td>
<td></td>
<td>Write &quot;Parasympathomimetic&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td>(1) Parasympathomimetic drugs artificially cause the transmission of messages</td>
<td></td>
<td>Ask students to name a drug category that would be con-</td>
</tr>
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</table>
### Aids Lesson Plan

<table>
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<tbody>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>that produce lowered blood pressure, drowsiness, etc.</td>
<td>sidered parasympathomimetic.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>(2) Examples: Narcotic Analgesics and CNS Depressants.</td>
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<tr>
<td><img src="image" alt="Aids" /></td>
<td>4. Although there are more than 100 chemicals in the brain, only about two dozen probably are true neurotransmitters.</td>
<td>Write these neurotransmitter on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>a. Among the primary neurotransmitters that have been identified are:</td>
<td>Point out that Norepinephrine is a neurotransmitter that produces effects on the body that are similar to the effects produced by Adrenaline (a hormone). Many neurotransmitter correspond to hormones that produce similar effects.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Norepinephrine (also called Noradrenaline)</td>
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<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Acetylcholine</td>
<td>Acetylcholine plays a role in muscle control, and affects neuromuscular or myoneural junctions.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Dopamine</td>
<td>Dopamine plays a role in mood control and is used in treating Parkinson Disease.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Serotonin</td>
<td>Serotonin is a vasoconstrictor, thought to be involved in sleep, wakefulness and sensory perception. Tryptophan is a precursor to serotonin, and has been used to treat insomnia.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Gama Amino Butric Acid (Abbreviated GABA)</td>
<td>GABA inhibits various neurotransmitter and also causes a release of growth hormones.</td>
</tr>
<tr>
<td><img src="image" alt="Aids" /></td>
<td>o Endorphins and Enkephalins</td>
<td>These are the body’s natural pain relievers.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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</tr>
<tr>
<td></td>
<td>b. There are many drugs that artificially induce the effects of neurotransmitter and hormones.</td>
<td>Solicit students' questions and comments about nerves and neurotransmitter.</td>
</tr>
<tr>
<td></td>
<td>D. How Drugs Work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. In very simple terms, drugs work by artificially creating natural body reactions generally associated with the work of neurotransmitters and hormones.</td>
<td></td>
</tr>
</tbody>
</table>
a. Therapeutic doses of legitimate prescriptive and over the counter drugs are designed to produce mild and carefully controlled simulations of the natural action of neurotransmitters and hormones.

b. Large, abusive doses of drugs may produce greatly exaggerated simulations of the natural action of hormones and neurotransmitters, sometimes with disastrous results.

2. When a person ingests a drug and artificially simulates the natural action of hormones and neurotransmitters, the body's dynamic balance is disrupted.

   a. The body automatically responds to the presence of the drug by producing other hormones and chemicals that can oppose the drug's effects, and bring the body back into balance.

   (1) Example #1: If a person ingests a stimulant drug that mimics neurotransmitters associated with the sympathetic nerves, the body may react by excreting hormones that depress the bodily functions that the drug is exciting.

   If a person ingested Cocaine, for example, the Cocaine would artificially stimulate the body functions. The body would then produce hormones and neurotransmitters to slow down the body functions to try to maintain homeostasis.

Ask students: What drug do many people take to overcome artificially the drowsiness they feel in the morning?

Example: Cocaine (a sympathomimetic drug) may artificially create a message commanding the heart to beat so rapidly that cardiac arrest results.

Remind students that the body struggles to maintain homeostasis, the dynamic balance of salts, sugars and other substances.
(2) Example #2: If a person ingests a drug that depresses some bodily function, the body may pour out one of its natural chemicals that stimulate that same function.

b. An interesting situation can occur when the drug is no longer psychoactive.

(1) The chemicals produced by the body in an effort to counteract the drug may still be active.

(2) These natural chemicals have exactly the opposite effect on the body that the drug had: after all, that is precisely why the body produced those chemicals.

(3) As a result, the person may feel, appear and act in a manner exactly opposite to the way he or she would feel, appear and act when under the influence of the drug.

Example: Ask students if they have ever experienced this situation...After drinking several drinks, they become drowsy, go to bed and fall asleep quickly. But, after a few hours, when it is still the middle of the night, they suddenly awaken and are wide awake, unable to fall asleep again. What has happened is that the alcohol has worn off,
but the natural CNS
Stimulants the body produced
to counteract the alcohol are
still around.

Write "Downside" on the dry erase board or flip-chart.

Example: with cocaine (a drug that is metabolized, or broken
down by the body fairly quickly) the user may be exhibiting drowsiness and
general depression by the time the DRE is called to the scene.

Example: with cocaine (a drug that is metabolized, or broken down by the body fairly quickly) the user may be exhibiting drowsiness and general depression by the time the DRE is called to the scene.

(1) It is not uncommon for a DRE to encounter some-one on the "downside".

(2) The concept of "Downside" will be especially important to us when we discuss the effects of CNS stimulants and drug combinations.

Draw this diagram on the dry erase board or flip-chart:

Solicit students' questions about Downside.

Point out that persons on the "downside" can be dangerous when trying to operate a motor vehicle.

Point out that two common examples of "downside" occur with Cocaine and Methamphetamine. Both drugs stimulate the body.

Then the body attempts to "counteract" the stimulant effects. When the effects of the drug diminish, the results may mimic a CNS depressant or a Narcotic Analgesic.

Write "Negative Feedback" on the dry erase board or flip-chart.

3. Another interesting effect that drugs can produce is called Negative Feedback.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. By taking the drug, the person artificially simulates the action of certain hormones and/or neurotransmitters.</td>
<td>Write &quot;The Body Quits Producing The Natural Chemicals&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>b. If the person continues to take the drug, the body may simply cease producing the natural chemicals that the drug simulates.</td>
<td>Write &quot;Increased Tolerance&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>c. In effect, the body comes to rely on the drug to supply itself with those chemicals.</td>
<td>Emphasize: Habitual users of drugs may develop tolerance to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even tolerant drug users, when impaired, usually exhibit clinical evidence. (i.e. in the vital signs and eye signs - such as HGN)</td>
</tr>
<tr>
<td></td>
<td>d. One result of this may be increased tolerance to the drug: since the body isn’t producing its own natural chemicals, it can more easily stand the drug.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Example of Negative Feedback: When people regularly use heroin, cocaine or marijuana, their bodies may cease producing the neurotransmitters and hormones known to be crucial for proper pain relief, stress reduction, mental stability and motivation.</td>
<td>Point out that because of this Negative Feedback, the user becomes dependent on the drug to cope with the stresses and strains of daily life.</td>
</tr>
<tr>
<td>VI-14 (Tolerance)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
f. Another result may be physical dependence, or addiction.

4. Why do people take drugs?
   a. In simplest terms, people take drugs because they like the feelings the drugs produce.
   b. The artificial simulation of the natural action of hormones and neurotransmitters appears to permit the user to create any feeling or mood he or she desires.
   c. As time goes on, and negative feedback develops, the user finds that he or she can only achieve those feelings and moods if the drug is taken.

5. One final concept is important for an understanding of how drugs work.
   a. A Metabolite is a product of metabolism, the chemical changes that take place when the drug reacts with enzymes and other substances in the body.

Write "Physical Dependence" on the dry erase board or flip-chart.

Pose the questions to the class. Solicit responses.

Write "Metabolite" on the dry erase board or flip-chart.

Instructor information:

Metabolism is defined as the combined chemical and physical processes that take place in the body involving the distribution of nutrients and resulting in growth, energy production, the elimination of wastes, and other body functions. There are two basic phases of metabolism: anabolism, the constructive phase, during which small molecules resulting from the digestive process are built up into com-
plex compounds that form the tissues and organs of the body; and catabolism, the destructive phase, during which larger molecules are broken down into simpler substances with the release of energy.

b. The body uses chemical reactions to break down the drug, and ultimately to eliminate it.

c. Sometimes, metabolites of the original drug are themselves drugs, and cause impairment.

d. For example, the body quickly metabolizes heroin into morphine, and it is the morphine that actually produces the effects the heroin user experiences.

Example: When we drink alcohol, we initiate a series of chemical reactions that ultimately transform the alcohol into harmless carbon dioxide and water.

Solicit students' questions and comments about how drugs work.

E. Medical Conditions

1. Certain medical conditions or injuries may cause signs and symptoms similar to those of drug impairment.

Refer students to the list contained in their manuals.

Point out that many of the conditions listed are serious enough to prevent driving.

a. Bipolar Disorder (Manic Depression) - a condition characterized by the alteration of manic and depressive states.
### Aids Lesson Plan

**b.** Conjunctivitis - inflammation of the conjunctiva.

Conjunctivitis is a condition caused by infection, allergy or irritation of the mucous membrane lining of the eyes, resulting in a "pink eye" appearance. A casual observer might mistake this for the bloodshot conditions associated with Cannabis or alcohol.

**c.** Diabetes - a condition that can result in insulin shock (taking too much insulin) which may produce tremors, increased blood pressure, rapid respiration, lack of coordination, headache, confusion and seizures.

The most common problem with diabetics arises when they take too much insulin, so that their blood sugar levels become extremely low. They may be very confused, sweat profusely, and exhibit increased pulse rate and increased blood pressure.

**d.** Head Trauma - normally due to a severe blow or bump to the head.

Head Trauma may injure the brain and create disorientation, confusion, lack of coordination, slowed responses and speech impairment.

Point out that head trauma may produce disorientation, confusion, unequal pupil size, unequal tracking ability of the eyes, or the drooping of one eyelid while the other remains normal.

**e.** Multiple Sclerosis (MS) - a degenerative muscular disorder.

MS is a progressive disease in which the nerve fibers of the brain and spinal cord lose their myelin cover. Some signs and symptoms are abnormal sensations in the
f. Shock - a sudden or violent disturbance in the mental or emotional faculties.

g. Stroke - a medical condition caused by a rupture or obstruction (as by a clot) of an artery of the brain.

h. Others - Carbon Monoxide poisoning, Seizures, Endocrine disorders, Neurological conditions, Psychiatric conditions and infections.

2. Normal conditions can affect vital signs.

   a. Exercise
   b. Excitement
   c. Fear
   d. Anxiety
   e. Depression
   f. Other

   A shock victim may be dazed, uncoordinated, non-responsive.

   Point out that stroke may produce many of the same indicators as will head trauma. In addition, stroke victims may have pupils that are markedly different in size, and one pupil may exhibit no visible reaction to light while the other reacts normally.

   Review physiologic changes that may be mistaken for drug induced symptoms. For example, strenuous exercise increases heart rate and rapidity and rate of respiration; surprise, fear and pain dilate the pupils markedly.

   Total effect is greater than the sum of the effects taken independently.

   For example, a CNS stimulant/ CNS depressant combination may cause the suspect to look and act like a "wide awake drunk".
For example, a person who has been using Marijuana, Cocaine, or some other drug may also consume a moderate amount of alcohol in the hope that, if they are stopped and asked to submit to a breath test, the arresting officer will be fooled by the low to moderate BAC into thinking that the suspect is simply "slightly" impaired by alcohol alone.

Suspect alcohol, however, impairment is not consistent with BAC.

Emphasize that research in drug intoxication and the interaction with neurotransmitters and neurohormones is in its infancy. There are many unknowns!

This limited overview will not qualify students as medical specialists!

The knowledge gained during this session must be supplemented by additional reading and/or instruction. The body of knowledge is being constantly expanded.

Point out that the best response to questions regarding bodily functions
b. The body maintains homeostasis (equilibrium) by constantly adjusting to changes in the external and internal environment:

(1) When drugs are introduced into the body this process comes into play.

(2) When drugs interact in the body they tend to:
   - speed things up, or
   - slow things down, or
   - confuse signals, or
   - block signals, or
   - some combination of the above.

(3) The effects of drugs can be detected and/or observed in the drug evaluation.

and or specific drug interactions is "I don't know. I conducted a series of evaluations and documented my observations. Based on my training and experience the results of my observations are consistent with those produced by persons impaired by ___."

Point out that the body functions as a total unit in an integrated and coordinated manner.

Point out that this is a very simplistic overview of how drugs work.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2. Drug Evaluations</td>
<td>Solicit and answer students' questions.</td>
</tr>
<tr>
<td></td>
<td>a. Detailed instructions on procedures and expected results will be covered in following sessions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Physiological Pursuit</td>
<td>For review of the Physiology and Drugs session, questions can be asked of the students as if it were a game of Trivial Pursuit. See attachment.</td>
</tr>
<tr>
<td>VI-16</td>
<td>(Physiological Pursuit)</td>
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</tbody>
</table>
Session VI

Physiology and Drugs: An Overview

Physiology and Drugs: An Overview (Continued)

Bodily Functions Examined During Drug Evaluation

Physiology:

The study of the functions of living organisms and their parts

MURDERS, INC.
The Ten Systems of Human Physiology: MURDERS, INC.

M is for Muscular System
U is for Urinary System
R is for Respiratory System
D is for Digestive System
E is for Endocrine System
R is for Reproductive System
S is for Skeletal System

*For DRE officers, these are key systems*

Interrelated Body Systems

Homeostasis

Dynamic balance or steady state involving levels of salts, water, sugars and other material in the body's fluids.

Basic Plan of the Circulatory System

Circulatory System

Systematic Circulation

The Heart
A Simple Concept of a Nerve

How a Neurotransmitter Works

Steps are numbered sequentially:
1. Neuron makes a neurotransmitter
2. Vesicles store neurotransmitter
3. Neurotransmitter enters gap to transmit electrical impulse to receptor site
4. Receptor performs a function

Classification of Nerves

Motor Nerves

- Voluntary
- Autonomic

Tolerance

- May exhibit relatively little evidence of impairment on the psychophysical tests.
- Even tolerant drug users, when impaired, usually exhibit clinical evidence (i.e. vital signs, eye signs, etc.).
Medical Conditions

- Bipolar Disorder
- Diabetes
- Conjunctivitis
- Multiple Sclerosis and similar conditions

Other Medical Conditions

- Shock
- Head Trauma
- Stroke

Physiological Pursuit

QUESTIONS?
INSTRUCTIONS FOR PHYSIOLOGICAL PURSUIT

1. Preparation and Rules of the Game

   a. Ahead of time, secure five like items as prizes (such as lottery scratch off tickets).

   b. Select two teams of five students each. Appoint a captain for each team. (Usually home team and visitors team. Attempt to balance teams and avoid “sharks”.)

   c. Appoint a time keeper.

   d. Appoint a score keeper.

   e. Select a panel of instructor judges.

   f. On a flip-chart or dry erase board, mark as follows:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home</td>
</tr>
<tr>
<td></td>
<td>Visitor</td>
</tr>
<tr>
<td>1.</td>
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<td>2.</td>
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<td>14.</td>
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<td>15.</td>
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</tbody>
</table>

   g. Place the teams on opposite sides of the
room in view of the screen.

h. Selectively reveal the questions.
i. Cover all the questions with two pieces of paper. When a question is selected, reveal the question using the two papers to cover all others and turn the projector on long enough to read the question and repeat it. Then turn the projector off. The team getting the question has 20 seconds to discuss and come up with the “correct” answer. The captain can answer the question or designate a team member to do so.

j. The judges decide if the answer is correct. If not, the other team may answer. If neither team gets the answer, no points are scored and the game goes on to the next question.

2. Playing the Game

a. To start the game, flip a coin and have the team captains call the result while the coin is in the air. The winning team captain can elect to receive or pass the first question selection to the opposing team.

b. The selected team stars with the question selection and the selection alternates until the game ends.

c. As the questions are selected, the score keeper crosses out those selected. He also awards one point to the team answering the question correctly.

d. “No coaching from the audience.”

e. The team with the most points after 14 questions wins. If the score is tied, use the last question to the break tie.
QUESTIONS FOR PHYSIOLOGICAL PURSUIT

1. Name the major body systems.

Muscular, Urinary, Respiratory, Digestive, Endocrine, Reproductive, Skeletal, Integumentary, Nervous, and Circulatory.

2. What vein carries oxygenated blood?

Pulmonary vein. The pulmonary vein returns oxygenated blood from the lungs to the left side of the heart. The left side of the heart then pumps the oxygenated blood via arteries throughout the body. The pulmonary artery carries de-oxygenated blood from the right side of the heart to the lungs.

3. What is the function of the endocrine system?

The endocrine system is composed of ductless glands that release chemical messengers, called hormones, into the bloodstream. The function is the regulation of various bodily processes by the production and release of hormones.

4. Explain the “downside” effect of a drug.

The “downside” effect of a drug refers to the post euphoric stage of a drug’s effects. As the effects of a drug wear off, the individual may display effects that are essentially the opposite of the “high” state that was brought about by the drug. This effect is in part due to the body’s attempt to counteract the effects of a drug.

5. Define homeostasis.

Homeostasis is basically a physiological equilibrium or dynamic balance. Homeostasis refers to the body’s mechanisms that keep the levels of fluids, salts, chemicals and other internal substances in a safe balance. The regulation of temperature is an example of homeostasis at work.

6. Hair and nails are part of what system?

The Integumentary system. This system also includes the skin.

7. Name the two circulatory systems.

The systemic circulatory system, which is driven by the left side of the heart, and pulmonary circulatory system, driven by the heart’s right side.
8. The functions of the organs of the body are controlled by what two systems?

The endocrine and nervous system.

9. Define synapse, axon, and dendrite.

These structures are all part of the nerve cell, or neuron. The axon is the part of the neuron that releases neurotransmitter from a terminal into the synapse. An electrical impulse causes the axon to release the neurotransmitter. The synapse is the gap between nerve cells and is also called the synaptic gap. The dendrite refers to a structure that receives the chemical message from the neurotransmitter. There are often many dendrites on each neuron. The neurotransmitter fits into receptor sites on the dendrite and causes an electrical message to be sent to the neuron’s body.

10. Define neurotransmitter and hormone.

Both are chemical messengers. Neurotransmitter are chemicals that send messages within the nervous system. Hormones are released by glands in the endocrine system into the bloodstream.

11. ______ nerves carry messages AWAY from the brain to the body’s muscles and organs.

Efferent, or Motor nerves. These nerves cause a motor response. Afferent nerves send sensory messages to the brain. The central nervous system interprets these messages and if appropriate, calls for a response through the efferent nerves.

12. The _____ nervous system commands the body to react to stress, fear, and excitement.

The Sympathetic nervous system, a division of the Autonomic Nervous System, produces the body’s “fight or flight” response to real or perceived danger. Drugs that mimic the activation of the sympathetic nervous system are “sympathomimetics”. CNS Stimulants have effects closest to the effects of sympathetic nervous system activation.

13. Explain “negative feedback.”

Refers to the body’s response to taking a drug that has effects similar to natural internal chemicals. After repeated exposure to the drug, the body responds by slowing, or even stopping the production of the internal chemical. In time, the body begins to rely on the drug. An example of negative feedback involving legitimate substances is insulin dependant
diabetics. Once an individual begins to take insulin, the person’s body will eventually stop making its own insulin. The person must obtain insulin by administering it.

14. What two types of nerves make up the autonomic nervous subsystem?

The Sympathetic and Parasympathetic nerves. The sympathetic nervous system initiates the body’s “fight or flight” response to real or perceived danger. The parasympathetic nervous system parallels or balances the sympathetic nervous system. This system initiates calming and digestive processes.

15. Define metabolite.

A metabolite is the by-product of the body’s chemical breakdown of various substances for elimination. Metabolites may or may not be psychoactive by themselves. Often times a toxicological analysis will disclose various metabolites of a drug, rather than the parent drug.
Topics for Study

1. What is a neurotransmitter? What is a hormone?

A neurotransmitter is a chemical that passes from the axon of one nerve cell to the dendrite of the next cell, and that carry messages across the gap between the two nerve cells.

Hormones are chemicals produced by the body’s endocrine system that are carried through the blood stream to the target organ. They exert great influence on the growth and development of the individual, and they aid in the regulation of numerous body processes.

2. What is a dendrite? What is an axon? What is a synapse?

The dendrite is the part of a neuron (nerve cell) that receives a neurotransmitter.

The axon is the part of a neuron (nerve cell) that sends out a neurotransmitter.

The synapse is the gap or space between two neuron (nerve cells).

3. Do arteries carry blood toward the heart or away from the heart?

Arteries carry blood away from the heart.

4. What is unique about the Pulmonary Artery?

The pulmonary artery is the only artery that carries blood depleted of oxygen.

5. What are the two types of nerves that make up the Autonomic Nervous Subsystem?

Sympathetic Nerves

Parasympathetic Nerves

6. Is Cocaine sympathomimetic or parasympathomimetic? What about Heroin?

Cocaine is a sympathomimetic drug.
Heroin is a parasympathomimetic drug.

7. Explain the concept of the "downside effect". Explain the concept of "Negative Feedback".

Downside effect occurs when the body reacts to the presence of a drug by producing hormones or neurotransmitters to counteract the effects of the drug consumed.

Negative feedback occurs when the brain becomes accustomed to the presence of drugs and stops producing the natural chemicals that correspond to the drug.

8. What do we call the nerves that carry messages away from the brain? What do we call the nerves that carry messages toward the brain?

The nerves that carry messages away from the brain are called the Motor Nerves, or the Efferent Nerves.

The nerves that carry messages toward the brain are called the Sensory Nerves, or the Afferent Nerves.
SESSION VII

EXAMINATION OF VITAL SIGNS
SESSION VII  EXAMINATION OF VITAL SIGNS

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

- Explain the purposes of the various vital signs examinations in the drug influence evaluation procedure
- Explain the administrative procedures for these examinations
- Explain the cues obtained from these examinations
- Document the examinations of vital signs accurately and completely
- Correctly answer the "topics for study" at the end of this session

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Purpose of the Examinations</td>
<td>o  Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Procedures and Cues</td>
<td>o  Instructor Led Demonstrations</td>
</tr>
<tr>
<td>C. Demonstrations</td>
<td>o  Audio Tape Presentation</td>
</tr>
<tr>
<td>D. Documentation Procedures</td>
<td>o  Student Led Demonstrations</td>
</tr>
<tr>
<td>E. Practice</td>
<td>o  Students' Hands On Practice</td>
</tr>
<tr>
<td></td>
<td>o  Reading Assignments</td>
</tr>
</tbody>
</table>
A. Purposes of the Examinations

1. The vital signs that are relevant to the drug influence evaluation include:
   a. Pulse rate
   b. Blood pressure
   c. Temperature

2. Different types of drugs affect these vital signs in different ways.
   a. Certain drugs tend to "speed up" the body and elevate these vital signs.
   b. Other drugs tend to "slow down" the body and lower these vital signs.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td>3. Systematic examination of the vital signs gives us much useful information concerning the possible presence or absence of various categories of drugs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B. Procedures and Cues</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Measurement of pulse rate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Pulse is the expansion and relaxation of an artery generated by the pumping action of the heart.</td>
<td>Point out that pulse rate is equal to the number of contractions of the heart per minute.</td>
</tr>
<tr>
<td></td>
<td>b. Pulse Rate is the number of pulsations in an artery per minute.</td>
<td>Instructor, for your information: Technically speaking, pulse rate is not quite the same thing as heart beat rate. There are rare and very serious conditions that could cause the heart to beat so weakly that it is unable to force blood through some or all arteries. In that case, there might be no discernable pulse even though the heart is beating. But with a normal, healthy heart, pulse rate will equal heart beat rate.</td>
</tr>
<tr>
<td></td>
<td>c. An artery is a strong, elastic blood vessel that carries blood from the heart to the body tissues.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. A vein is a blood vessel that carries blood back to the heart from the body tissues.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>e.</td>
<td>When the heart contracts, it squeezes blood out of its chambers into the arteries.</td>
<td>Emphasize: The &quot;surge&quot; can be felt as the blood is squeezed from the heart through an artery. The pulse cannot be felt in a vein.</td>
</tr>
<tr>
<td>f.</td>
<td>The surging blood causes the arteries to expand.</td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>By placing your fingers on the skin next to an artery and pressing down, you can feel the artery expand as the blood surges through.</td>
<td>Demonstrate this, by holding your fingers on your own radial artery.</td>
</tr>
<tr>
<td>h.</td>
<td>By keeping your fingers on the artery and counting the number of pulses that occur in one minute, you will measure the pulse rate.</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Pulse is easy to measure, once you locate an artery close to the surface of the skin.</td>
<td></td>
</tr>
<tr>
<td>j.</td>
<td>One convenient pulse point involves the radial artery.</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>The radial artery can be located in or near the natural crease of the wrist, on the side of the wrist next to the thumb.</td>
<td>Point to the radial artery pulse point on your own wrist.</td>
</tr>
<tr>
<td>o</td>
<td>Hold your left hand out, with the palm down.</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td>o</td>
<td>Place the tips of your right hand's index finger and middle finger into the crease of your left wrist, and exert a slight pressure.</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td>o</td>
<td>Allow your left hand to curl downward.</td>
<td>Demonstrate this.</td>
</tr>
</tbody>
</table>

VII-4 (Radial Artery)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o You should be able to feel the pulse in your radial artery.</td>
<td>Ask students whether they can feel their pulses. Coach any students who have difficulty in locating the pulse.</td>
</tr>
<tr>
<td></td>
<td>k. Another pulse point involves the brachial artery.</td>
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</tr>
<tr>
<td></td>
<td>o The brachial artery can be located in the crook of the arm, halfway between the center of the arm and the side of the arm closest to the body.</td>
<td>Point to the brachial artery pulse point in your own arm. Instruct students to roll up their sleeves, if necessary, to expose their brachial artery pulse points.</td>
</tr>
<tr>
<td></td>
<td>o Hold your left hand out, with the palm up.</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td></td>
<td>o Place the tips of your right hand's index and middle fingers into the crook of your left arm, close to the body, and exert a slight pressure.</td>
<td>Demonstrate this.</td>
</tr>
<tr>
<td></td>
<td>o You should be able to feel the pulse in your brachial artery.</td>
<td>Ask students whether they can feel their pulses. Coach any students who have difficulty locating the pulse.</td>
</tr>
<tr>
<td></td>
<td>l. Another pulse point involves the carotid artery.</td>
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</tr>
<tr>
<td></td>
<td>o The carotid artery can be located in the neck, on either side of the Adam's apple.</td>
<td>Point out the carotid artery pulse point on your own neck.</td>
</tr>
<tr>
<td></td>
<td>o Place the tips of your right hand's index and middle fingers alongside the right side of your Adam's apple.</td>
<td>Demonstrate this.</td>
</tr>
</tbody>
</table>
- You should be able to feel the pulse in your carotid artery.

- Basic do's and don'ts of measuring pulse.

- Don't use your thumb to apply pressure while measuring a subject's pulse.

- If you use the carotid artery pulse point, don't apply pressure to both sides of the Adam's apple: this can cut off the supply of blood to the brain.

- When measuring the pulse rate, use time intervals of 30 seconds.

- Some technical terms associated with pulse rate:
  1. Tachycardia: Abnormally rapid heart rate.
  2. Bradycardia: Unusually slow heart rate.
  3. Arrhythmia: Abnormal heart rhythm.

Ask students whether they can feel their pulses. Coach any students who have difficulty locating the pulse.

Note, however, that there is wide variation in "normal" human pulse rate.

Point out that there is an artery located in the thumb close to the surface of the skin. If you apply pressure with the thumb, you may wind up measuring your own pulse when you think you are measuring the suspect's.

Point out that pulse rate is always expressed as "beats per minute". When you count the beats during an interval of 30 seconds, you must double the result to obtain the pulse rate.
o. Students' initial practice at measuring pulse rate.

Instruct students to work in pairs, taking turns measuring each other's pulse.

Tell students to record on paper their partner's pulse rate.

Monitor, coach and critique the students' practice.

Allow the practice to continue for only about 5 minutes.

PRINT the following lists on the dry erase board or flip-chart:

50 or less___  76-78___
52-54___  80-82___
56-58___  84-86___
60-62___  88-90___
64-66___  92-94___
68-70___  96-98___
72-74___  100 or more___

TABULATE the numbers of students whose pulse rates were in each of the listed intervals.

POINT OUT that the "normal range" of pulse rate is 60-90 beats per minute.


a. Blood Pressure is the force that the circulating blood exerts on the walls of the arteries.

o Blood pressure is measured in millimeters of mercury.
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</thead>
<tbody>
<tr>
<td></td>
<td>o Example: a blood pressure of 120 means that the blood is pressing on the walls of the artery with enough force to push liquid mercury 120 millimeters up a glass tube.</td>
<td>Point out that 120 millimeters is approximately four and three-quarter inches.</td>
</tr>
<tr>
<td></td>
<td>o We commonly abbreviate &quot;millimeters of mercury&quot; as mmHg.</td>
<td>Print &quot;mmHg&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>b. Blood Pressure changes constantly as the heart contracts and relaxes.</td>
<td>Instructor, for your information: &quot;Hg&quot; is the chemical symbol for the element mercury. It comes from Hydrargyrum, the Latin word for mercury.</td>
</tr>
<tr>
<td></td>
<td>c. Blood Pressure reaches its maximum as the heart contracts and sends the blood surging through the arteries. This is called the systolic pressure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Blood Pressure reaches its minimum when the heart is fully expanded. This is called the diastolic pressure.</td>
<td>Remind students that &quot;systolic&quot; is the higher number, &quot;diastolic&quot; the lower number.</td>
</tr>
<tr>
<td></td>
<td>e. It is always necessary to measure and record both the systolic and diastolic blood pressure.</td>
<td>Memory aid: Systolic: &quot;S&quot; for &quot;Superior&quot; Diastolic: &quot;D&quot; for &quot;Down&quot;</td>
</tr>
<tr>
<td></td>
<td>f. The device used for measuring blood pressure is called a sphygmomanometer.</td>
<td>Exhibit a sphygmomanometer.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td><img src="image.png" alt="Image" /></td>
<td>g. The sphygmomanometer has a special cuff that can be wrapped around the subject's arm and inflated with air pressure.</td>
<td>Write &quot;SPHYGMOMANOMETER&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>h. As the pressure in the cuff increases, the cuff squeezes tightly on the arm.</td>
<td>Select a student to come before the class. Have the student sit in a chair facing the class, and roll up a sleeve (if necessary) to expose a bicep.</td>
</tr>
<tr>
<td></td>
<td>i. When the pressure gets high enough, it will squeeze the artery completely shut.</td>
<td>Advise students to check for birth control implants in the upper left arm. If subject has an implant, blood pressure should be taken on the right arm and documented.</td>
</tr>
<tr>
<td></td>
<td>j. Blood will cease flowing through the brachial artery. And, since the brachial artery &quot;feeds&quot; the radial artery, blood will also cease flowing through the radial artery.</td>
<td>Instruct the student to elevate the arm and squeeze the fist several times; explain that this helps to drain blood from the arm.</td>
</tr>
<tr>
<td></td>
<td>k. If we slowly release the air in the cuff, the pressure on the arm and on the artery will start to drop.</td>
<td>Wrap the cuff around the student volunteer's arm and inflate it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ask the student volunteer whether they can feel the pressure of the cuff.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ask students: &quot;What artery is located in the crease of the elbow?&quot; (Point to that location on the student volunteer's arm).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Release the pressure in the cuff on the student volunteer's arm.</td>
</tr>
</tbody>
</table>
1. Eventually, the pressure will drop enough so that blood will once again start to flow through the artery.

- Blood will start flowing in the artery once the pressure inside the artery equals the pressure outside the artery.
- The two pressures will become equal when the air pressure in the cuff drops down to the systolic pressure.
- When that happens, blood will spurt through the artery each time the heart contracts.

- Once the air pressure in the cuff drops down to the diastolic level, the blood will flow continuously through the artery.

**Instructor Notes**

- Ask students: "How far must the pressure in the cuff drop before the blood can start to squeeze through the artery."
- **Ask** students: "What would happen if we allowed the pressure in the cuff to drop down to the systolic level, and held the air pressure at that level?"
- **Point out** that the blood would spurt through the artery each time the heart contracted, but would cease flowing when the heart expanded.
- **Ask** students: "How far down must the air pressure in the cuff drop before the blood will flow through the artery continuously?"
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<tbody>
<tr>
<td>VII-8 (Basics of BP)</td>
<td>m. Overview of procedures for measuring blood pressure.</td>
<td>Demonstrate, using the student-volunteer (apply pressure to the cuff).</td>
</tr>
<tr>
<td></td>
<td>o Apply enough air pressure to the cuff to cut off the flow of blood through the artery.</td>
<td>Slowly release the pressure in the cuff.</td>
</tr>
<tr>
<td></td>
<td>o Slowly release the air pressure until the blood just begins to spurt through the artery: that level will be the systolic pressure.</td>
<td>Ask students:</td>
</tr>
<tr>
<td></td>
<td>o Continue to release the air pressure until the blood flows continuously through the artery: that level will be the diastolic pressure.</td>
<td>(1) &quot;How can we tell when the blood starts to spurt through the artery?&quot;</td>
</tr>
<tr>
<td></td>
<td>n. We can listen to the spurting blood, using a stethoscope.</td>
<td>(2) &quot;How can we tell when the blood is flowing continuously through the artery?&quot;</td>
</tr>
<tr>
<td></td>
<td>o Apply the stethoscope to the skin directly above the artery.</td>
<td>Exhibit a stethoscope.</td>
</tr>
<tr>
<td></td>
<td>o Apply pressure to the cuff, enough to cut off the flow of blood.</td>
<td>Demonstrate, using the student volunteer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflate the cuff on the student volunteer's arm.</td>
</tr>
<tr>
<td>Aids</td>
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<tr>
<td></td>
<td>o When no blood is flowing through the artery, we hear <strong>nothing</strong> through the stethoscope.</td>
<td>Release the air in the cuff.</td>
</tr>
<tr>
<td></td>
<td>o Slowly release the air from the cuff, letting the pressure start to drop.</td>
<td><strong>NOTE:</strong> This begins as a clear, tapping sound.</td>
</tr>
<tr>
<td></td>
<td>o When we drop to the systolic pressure, we start to hear a <strong>spurting</strong> sound.</td>
<td><strong>NOTE:</strong> The sounds take on a swishing quality, and become fainter.</td>
</tr>
<tr>
<td></td>
<td>o As we continue to allow the air pressure to drop, the surges of blood become steadily longer.</td>
<td>Excuse the student volunteer and thank them for participating.</td>
</tr>
<tr>
<td></td>
<td>o When we drop to the diastolic pressure, the blood flows steadily and all sounds cease.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o The sounds that we listen to are called <strong>Korotkoff Sounds</strong>. They are divided into 5 phases.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Phase 1 - the first appearance of clear, tapping sounds that gradually increase in intensity.</td>
<td><strong>Point out</strong> that the beginning of Phase 1 corresponds to the systolic pressure.</td>
</tr>
<tr>
<td></td>
<td>o Phase 2 - the sounds change to a murmur and take on a swishing quality.</td>
<td></td>
</tr>
</tbody>
</table>
### Aids

- **Phase 3** - the sounds develop a loud, knocking quality (not quite as clear as the Phase 1 sounds).
- **Phase 4** - the sounds become muffled and again have a faint swishing quality.
- **Phase 5** - the sounds cease.

### Lesson Plan

- **Familiarization with the sphygmomanometer.**

- **Compression cuff** contains an inflatable rubber bladder.

- **A tube connects the bladder to the manometer, or pressure gauge.**

- **Another tube connects the bladder to the pressure bulb, which can be squeezed to inflate the bladder.**

- **The pressure control valve permits inflation**

### Instructor Notes

- Point out that the beginning of Phase 5 corresponds to the diastolic pressure.
- Hand out stethoscopes and sphygmomanometers (one per each student is desirable. At a minimum, there should be one for every four students).
- Point out the components of the sphygmomanometer on visual.
- Point out that blood pressure cuffs come in three sizes, child, adult and extra large, depending on the size of the bladder.
- Clarification: The manometer displays the air pressure inside the bladder. In the DEC program, we use an aneroid (without fluid) pressure gauge.
<table>
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<tbody>
<tr>
<td></td>
<td>of the bladder and regulates the rate at which the bladder is deflated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To inflate the bladder, the pressure control valve must be twisted all the way to the right.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• When the valve is twisted all the way to the right, air can be pumped into the bladder, but no air can escape from the bladder.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To deflate the bladder, twist the valve to the left.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The more the valve is twisted to the left, the faster the bladder will deflate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>r. Details of blood pressure measurement.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o If it proves difficult to hear the Korotkoff sounds, simply have the subject elevate the arm and squeeze the fist several times, to drain the arm: this will make the Korotkoff sounds louder.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o The manometer (pressure gauge) may be clipped on the subject’s sleeve, so that it is readily viewable.</td>
<td></td>
</tr>
</tbody>
</table>
Aids | Lesson Plan | Instructor Notes
---|---|---
| o Twist the pressure control valve all the way to the right. | | Make sure the earpieces are turned forward, i.e. toward the nose. |
o Put the stethoscope earpieces in your ears. | | Point out that, if the subject’s blood pressure is very elevated, it may be necessary to inflate the bladder to a higher pressure. |
o Place the diaphragm or bell of the stethoscope over the brachial artery. | | EMPHASIZE the need to release the pressure slowly. If the pressure drops too fast, the needle will sweep down the gauge too quickly to be read accurately. |
o Rapidly inflate the bladder to a pressure of at least 180. | | The pressure should be released at a speed that takes one full second for the needle to move a single gradation (i.e. 2 millimeters of mercury) on the gauge. |
o Twist the pressure control valve slightly to the left to release the pressure slowly. | | Point out that the needle on the pressure gauge generally will "bounce" slightly when blood starts to spurt through the artery. |
o Keep your eyes on the gauge and listen for the Korotkoff sounds. | | Excuse the student and thank him or her for participating. Solicit students' questions concerning these procedures. |
Point out that "normal" values of blood pressure are:
- Systolic 120 - 140
- Diastolic 70 - 90

Note, however, that "normal" people can have significantly different blood pressures: there is wide variation in human blood pressure.

s. Do's and Don'ts of Blood Pressure Measurement.

o If you inflate the bladder and then need to repeat the measurement, wait at least three minutes to allow the subject's artery to return to normal.

Hold the bell of the stethoscope with your fingers; don't slide it under the cuff: that will distort the measurement.

t. Some technical terms associated with blood pressure:

1. Hypertension: Abnormally high blood pressure.

2. Hypotension: Abnormally low blood pressure.

u. Students initial practice at measuring blood pressure.

If at least one sphygmomanometer and stethoscope are available for every two students, instruct students to practice in pairs. Otherwise, assign students to practice in teams of 3 or 4 members.
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<tbody>
<tr>
<td></td>
<td>Monitor, coach and critique the students' practice.</td>
<td>Allow this practice to continue for only about 10 minutes.</td>
</tr>
<tr>
<td></td>
<td>Note: A digital thermometer with plastic sleeves is recommended.</td>
<td>Exhibit this.</td>
</tr>
<tr>
<td></td>
<td>Point out that when measuring temperature to ensure that the thermometer remains under the subject's tongue. DRE's should also try to refrain from letting the subject's drink hot or cold fluids immediately prior to measuring temperature.</td>
<td>Solicit students' comments and questions concerning this overview of procedures and cues.</td>
</tr>
<tr>
<td></td>
<td>Select two students to come before the class.</td>
<td></td>
</tr>
</tbody>
</table>

   a. Body temperature is measured using an oral thermometer.
   b. Make sure that a fresh disposable mouthpiece is used each time.

C. Demonstrations

1. Pulse rate measurement demonstrations.
   a. Radial artery pulse point. **Instruct** the first student to measure the second student's pulse using the radial artery pulse point. *(Simultaneously, the instructor should measure the subject's pulse using a carotid artery pulse point).*
   b. Carotid artery pulse point.
the instructor should measure the subject's pulse using a radial artery pulse point.)

Excuse the two students and thank them for participating.

2. Blood pressure measurement demonstrations.

Select two other students to come before the class.

Instruct the first student to measure the second student's blood pressure.

Have the students reverse roles.

Excuse the two students and thank them for participating.

D. Documentation Procedures

Review the sections of the Standardized Form used to record vital signs measurements.

E. Practice

Instruct students to practice in teams of 2-4 members, taking turns measuring each other's vital signs.

Monitor, coach and critique the students' practice.
**Topics for Study**

1. Where is the Radial Artery pulse point?
   - **Crease of the wrist**

2. Why should you never attempt to feel a subject's pulse with your thumb?
   - **You can mistakenly measure your own pulse**

3. Does an artery carry blood to the heart or from the heart?
   - **Away from the heart**

4. What does the symbol "Hg" represent?
   - **Mercury (Hydrargyrum)**

5. What is **Diastolic** pressure?
   - **The pressure when the heart relaxes**

6. When do the Korotkoff Sounds begin?
   - **At the systolic level when the blood begins to spurt through the brachial artery**

7. Name and describe the major components of a Sphygmomanometer.
   - **Compression Cuff, Pressure bulb, Manometer, Pressure control valve, Tubes**

8. Which of the seven categories of drugs generally will cause blood pressure to be elevated?
   - **CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Inhalants, Cannabis**
Session VII

Examination of Vital Signs

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

- Explain the purposes of the various vital signs examinations in the drug influence evaluation procedure
- Explain the administrative procedures for these examinations
- Explain the clues obtained from these examinations

Examination of Vital Signs (Continued)

- Document the examinations of vital signs accurately and completely
- Correctly answer the “topics for study” at the end of this session

Definitions Concerning “Pulse”

- Pulse
  - The expansion and relaxation of an artery due to the pumping action of the heart
- Pulse Rate
  - The number of pulsations in an artery per minute
- Artery
  - A strong, elastic blood vessel that carries blood from the heart to the body’s tissues
- Vein
  - A blood vessel that carries blood back to the heart from the body’s tissues

Radial Artery Pulse Point

Brachial Artery Pulse Point
Technical Terms Associated With Pulse Rate

- Tachycardia
  Abnormally rapid heart rate
- Bradycardia
  Abnormally slow heart rate
- Arrhythmia
  Abnormal heart rate rhythm

Definitions Concerning Blood Pressure

- Blood Pressure
  The force that the circulating blood exerts on the walls of the arteries
- Systolic Pressure
  The maximum blood pressure, reached as the heart contracts
- Diastolic Pressure
  The minimum pressure, reached when the heart is fully expanded

The Basics of Blood Pressure Measurement

- Apply enough air pressure to cut off the flow of blood through the artery
- Slowly release the air, 2 mmHg per second, until the blood just begins to spurt through the artery: that will be the systolic pressure
- Continue to release the air until the blood flows continuously: that will be the diastolic pressure

Korotkoff Sounds

- Phase 1 begins: Systolic, Clear, tapping sounds
- Phase 2 begins: Sounds change to murmur, take on a "swishing" quality
- Phase 3 begins: Sounds develop a loud, knocking quality
- Phase 4 begins: Sounds become muffled, faint "swishing" quality
- Phase 5 begins: Diastolic, The sounds cease

Sphygmomanometer

Details of Blood Pressure Measurement

1. Position cuff on bicep so that tubes extend down middle of arm
2. Wrap cuff snugly around bicep
3. Clip manometer to subject's sleeve
4. Twist pressure control valve all the way to the right
5. Put stethoscope earpieces in your ears
Details of Blood Pressure Measurement

6. Place stethoscope over brachial artery
7. Rapidly inflate bladder to 180 mmHg
8. Twist the valve slightly to the left
9. Keep your eyes on the gauge and listen for the Korotkoff sounds

Technical Terms Associated With Blood Pressure

- Hypertension
  Abnormally high blood pressure
- Hypotension
  Abnormally low blood pressure

QUESTIONS?
SESSION VIII

DEMONSTRATIONS OF THE EVALUATION SEQUENCE
SESSION VIII   DEMONSTRATIONS OF THE EVALUATION SEQUENCE

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

- Describe the sequence in which examinations and other activities are performed during the drug influence evaluation procedure.

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<td>o  Instructor Led Presentations</td>
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<td>B. Video Demonstrations</td>
<td>o  Instructor Led Demonstrations</td>
</tr>
<tr>
<td></td>
<td>o  Video Presentations</td>
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<td>o  Reading Assignments</td>
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<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>DEMONSTRATIONS OF THE EVALUATION SEQUENCE</td>
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<tr>
<td>VIII-1 (Title)</td>
<td>70 Minutes</td>
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<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>VIII-2 (Objective)</td>
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<td></td>
<td>A. Live Demonstrations</td>
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</table>
Aids | Lesson Plan | Instructor Notes
--- | --- | ---
1. Preliminary Examination. | Select a student or one of the volunteer drinkers for Session XII (prior to drinking) to serve as the "subject" for the preliminary examination. | 
   a. Preliminary eye checks | Ask each question, exactly as it should be asked during an actual preliminary examination. |
   o equal tracking | Explain the kinds of clues and evidence that may be gleaned during the preliminary examination. |
   o equal pupil size | |
   o resting nystagmus | |
   o blindness | |
   o eyelids | |
   o initial check for nystagmus | |
   b. First measurement of pulse rate. | Check the student subject's eyes for tracking, equal pupil size, resting nystagmus, eyelids. |
2. Eye Examinations (Room Light). | Conduct a check of the student subject's pulse. |
   a. Horizontal Gaze Nystagmus | Solicit students' comments or questions about the preliminary examination. |
   b. Vertical Gaze Nystagmus | Excuse the student subject and thank him/her for participating in the demonstration. |
   c. Lack of Convergence | Select another student or a volunteer drinker to serve as the "subject" for the eye examinations. |
<p>| Conduct a complete demonstration of an eye examination. |
| Explain the kinds of clues and other evidence that may be seen during the eye examinations. |</p>
<table>
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<td></td>
<td></td>
<td>Solicit students' comments or questions about the eye examinations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excuse the student subject and thank him or her for participating in the demonstration.</td>
</tr>
<tr>
<td>3. Psychophysical Tests.</td>
<td></td>
<td>Select another student or a volunteer drinker to serve as the &quot;subject&quot; for the psychophysical tests.</td>
</tr>
<tr>
<td></td>
<td>a. Romberg Balance</td>
<td>Conduct a complete set of psychophysical tests on the student subject.</td>
</tr>
<tr>
<td></td>
<td>b. Walk and Turn</td>
<td>Explain the kinds of clues and other evidence that may be gleaned during the psychophysical tests.</td>
</tr>
<tr>
<td></td>
<td>c. One Leg Stand</td>
<td>Solicit students' comments or questions about the psychophysical tests.</td>
</tr>
<tr>
<td></td>
<td>d. Finger to Nose</td>
<td>Excuse the student subject and thank them for participating in the demonstration.</td>
</tr>
<tr>
<td>4. Vital Signs Examinations.</td>
<td></td>
<td>Select another student to serve as the &quot;subject&quot; for the vital signs examination.</td>
</tr>
<tr>
<td></td>
<td>a. Blood Pressure</td>
<td>Conduct a complete set of vital signs examinations on the student subject.</td>
</tr>
<tr>
<td></td>
<td>b. Temperature</td>
<td>Explain the kinds of clues and other evidence that may be gleaned during the vital signs examinations.</td>
</tr>
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<td>c. Second Check of Pulse</td>
<td></td>
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</tbody>
</table>
### Lesson Plan

| Aids |  
|------|---|
| 5. **Dark Room Examinations.** |  
| a. **Pupil Size Examinations** |  
|   o room light |  
|   o darkness |  
|   o direct light |  
| b. **Reaction to Light** |  
| c. **Check of Nasal Area** |  
| d. **Check of Oral Cavity** |  

### Instructor Notes

- Solicit students' comments or questions about the vital signs examination.
- Excuse the student subject, and thank them participating in the demonstration.
- Point out that this portion of the drug influence evaluation procedure is to be carried out in a darkened room.
- However, this demonstration will be conducted in normal room light, so that all students can observe the proper procedures for using the pen light.
- Select another student to serve as the "subject" for the dark room examination.
- Conduct a complete set of "dark room" examinations on the student subject.
- Explain the kinds of clues and other evidence that may be gleaned during the dark room examinations.
- Point out that the checks of the oral and nasal cavities actually are part of the examination for signs of ingestion.
- Solicit students' comments or questions about the dark room examinations.
<table>
<thead>
<tr>
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<th>Lesson Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Examination for Muscle Tone and Injection Sites; Third Check of Pulse.</td>
<td>Excuse the student subject and thank them for participating in the demonstration. Select another student to serve as the &quot;subject&quot; for this portion of the examination. Point out that Heroin is not the only drug that abusers inject: “puncture marks” in the skin may also be found on the arms (and elsewhere) of abusers of several other drugs. Explain how to check for injection sites and muscle rigidity. Conduct a complete examination for injection sites and muscle rigidity on the student subject. Solicit students' comments or questions about this portion of the examination. Excuse the student subject, and thank them participating in the demonstration.</td>
</tr>
<tr>
<td>7.</td>
<td>Final Interview.</td>
<td>Explain the kinds of clues and other evidence that may be gleaned during the final interview. Give examples of typical statements or behaviors of drug impaired subjects. Solicit students' comments or questions about the final interview.</td>
</tr>
<tr>
<td>a.</td>
<td>Statements made by subject</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Behavior during entire evaluation</td>
<td></td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td>8. Opinions of Evaluator.</td>
<td>Point out that students subsequently will learn the clues and indicators of the various categories of drugs. Solicit students' comments and questions concerning the entire drug influence evaluation procedure. NOTE: Be sure to conduct at least two complete, live demonstrations of the drug influence evaluation procedure.</td>
</tr>
<tr>
<td>VHS</td>
<td>B. Review of the 12-Step Process (Video)</td>
<td>25 Minutes</td>
</tr>
</tbody>
</table>
Session VIII
Demonstrations of the Evaluation Sequence

Demonstrations of the Evaluation Sequence

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

- Describe the sequence in which examinations and other activities are performed during the drug influence evaluation procedure

QUESTIONS?
SESSION IX

CENTRAL NERVOUS SYSTEM DEPRESSANTS
SESSION IX  CENTRAL NERVOUS SYSTEM DEPRESSANTS

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

o Explain a brief history of the CNS Depressant category of drugs.

o Identify common drug names and terms associated with this category.

o Identify common methods of administration for this category.

o Describe the symptoms, observable signs and other effects associated with this category.

o Explain the typical time parameters, i.e. onset and duration of effects, associated with this category.

o List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs.

o Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overview of the Category</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects</td>
<td>o Review of Drug Evaluation and Classification Exemplars</td>
</tr>
<tr>
<td>C. Onset and Duration of Effects</td>
<td>o Reading Assignments</td>
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<td>D. Overdose Signs and Symptoms</td>
<td>o Video Presentations</td>
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<td>E. Expected Results of the Evaluation</td>
<td>o Slide Presentations</td>
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<td>Aids</td>
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<tr>
<td></td>
<td>CENTRAL NERVOUS SYSTEM DEPRESSANTS</td>
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<td></td>
<td><strong>20 Minutes</strong></td>
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<tr>
<td>IX-1 (Title)</td>
<td><strong>Total Lesson Time</strong>: Approximately 105 Minutes</td>
</tr>
<tr>
<td>IX-2A-C (Objectives)</td>
<td></td>
</tr>
<tr>
<td>A. Overview of the Category.</td>
<td></td>
</tr>
<tr>
<td>1. Central Nervous System Depressants slow down the operations of the brain.</td>
<td></td>
</tr>
<tr>
<td>a. Depressants first affect those areas of the brain that control a person's conscious, voluntary actions.</td>
<td>Point out that other common names for CNS Depressants are &quot;downers&quot; and &quot;sedative-hypnotics&quot;.</td>
</tr>
<tr>
<td>b. As the dose is increased, depressants begin to affect the parts of the brain that control the body's automatic processes.</td>
<td>Judgment, inhibitions and reaction time are some of the things that CNS Depressants affect first.</td>
</tr>
<tr>
<td>o heartbeat</td>
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<tr>
<td>o respiration</td>
<td></td>
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<tr>
<td>o etc.</td>
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<tr>
<td>2. The CNS depressant category includes the single most commonly abused drug in America.</td>
<td>Ask this question: &quot;What is the single most commonly abused drug?&quot;</td>
</tr>
<tr>
<td><strong>Aids</strong></td>
<td><strong>Lesson Plan</strong></td>
</tr>
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</tr>
<tr>
<td>IX-3 (Alcohol The Most Familiar CNS Depressant)</td>
<td>a. Alcohol has been used and abused since prehistoric times.</td>
</tr>
<tr>
<td>IX-4 (Chloral Hydrate)</td>
<td>b. Alcohol and its effects are familiar to most people.</td>
</tr>
<tr>
<td>IX-5 (Types of Non-Alcohol Depressants)</td>
<td>c. Alcohol is a model for the CNS depressant category: with some exceptions, all depressants produce effects that are quite similar to the effects of alcohol.</td>
</tr>
<tr>
<td></td>
<td>3. Non-Alcohol CNS depressants have been around for more than 150 years.</td>
</tr>
<tr>
<td></td>
<td>a. The first non-alcohol CNS depressant was <strong>Chloral Hydrate</strong>.</td>
</tr>
<tr>
<td></td>
<td>b. It was developed in 1832.</td>
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<tr>
<td></td>
<td>c. It is commonly referred to as &quot;Mickey Finn&quot; or &quot;Knockout drops&quot; because of its fast acting effects.</td>
</tr>
<tr>
<td></td>
<td>d. Chloral Hydrate is still produced and prescribed today.</td>
</tr>
<tr>
<td></td>
<td>4. There are six major subcategories of CNS depressants other than alcohol.</td>
</tr>
<tr>
<td></td>
<td>a. Barbiturates</td>
</tr>
<tr>
<td></td>
<td>o derivatives of Barbiturate Acid</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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</tbody>
</table>
| b. Non-Barbiturates | o first produced in 1864  in very common use and abuse today | Note: Chloral Hydrate belongs to the non-barbiturate subcategory.  
| | o synthetic compounds with a variety of chemical structures | i.e. sleepiness or drowsiness |
| | o avoid some of the undesirable side effects of barbiturates |  |
| | o still produce physical and psychological dependence. |  |
| c. Anti-Anxiety Tranquilizers | o first produced in 1950  in very wide spread use  frequently abused | The Anti-Anxiety Tranquilizers are also know as the "Minor Tranquilizers"; They include the group of drugs known as the "Benzodiazepines", examples of which are Valium, Xanax and Librium.  
| | |  |
| d. Anti-Depressants | o sometimes called the "mood elevators" | Point out that it is not a contradiction to call one subcategory of CNS Depressants the Anti-depressants. It is psychological depression that they are "anti". Prozac is an anti-depressant but generally doesn't have psycho-active properties or side effects.  
| e. Anti-Psychotic Tranquilizers | o sometimes called the "major tranquilizers" | Point out that the anti-psychotic tranquilizers are generally more powerful than the anti-anxiety tranquilizers.  
| | | The most familiar Anti-Psychotic Tranquilizer is "Thorazine".  
<p>| | | |
| | |  |</p>
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td>o Anti-Psychotic Tranquilizers were first introduced in the early 1950's. They provide a way to manage schizophrenia and other mental disorders, and allow psychiatric patients to be released from hospitals and to lead fairly normal lives.</td>
<td>Note: Briefly review these examples. Emphasize that students are not expected to memorize the names of these various CNS depressants. But, if they see these names, they should be able to recognize them as depressants.</td>
</tr>
<tr>
<td></td>
<td>f. Combinations of the other five subcategories.</td>
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<tr>
<td></td>
<td>5. Examples of specific common CNS Depressants.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. The Barbiturates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Amobarbital (Trade name &quot;Amytal&quot;) (Street names &quot;blues&quot;; &quot;blue heavens&quot;)</td>
<td>Note: this is a combination of Amobarbital and Secobarbital.</td>
</tr>
<tr>
<td></td>
<td>o Amosecobarbital (Trade name &quot;Tuinal&quot;) (Street names &quot;rainbows&quot;; &quot;Christmas trees&quot;)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Pentobarbital (Trade name &quot;Nembutal&quot;) (Street names &quot;yellows&quot;; &quot;yellow jackets&quot;)</td>
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### Aids

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<tbody>
<tr>
<td>o Phenobarbital (Many trade names) (Street name &quot;pink ladies&quot;)</td>
<td>According to the &quot;Physician's Guide to Psychoactive Drugs&quot;, 1 ounce of 80-proof alcohol is equivalent to about 15 milligrams of Phenobarbital.</td>
<td></td>
</tr>
<tr>
<td>o Secobarbital (Trade name &quot;Seconal&quot;) (Street names &quot;reds&quot;; &quot;red devils&quot;; &quot;RDs&quot;; &quot;fender benders&quot;; &quot;F-40s&quot;)</td>
<td>If available: display slides of these various drugs.</td>
<td></td>
</tr>
<tr>
<td>b. The Non-Barbiturates</td>
<td>Point out that primary medical use for the Non-Barbiturates is the treatment of insomnia.</td>
<td></td>
</tr>
<tr>
<td>o Carisoprodol (Trade name &quot;Soma&quot;)</td>
<td></td>
<td></td>
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<tr>
<td>o Chloral Hydrate (Trade names &quot;Felsule&quot;; &quot;Noctec&quot;) (Street names &quot;Knock out drops&quot;; &quot;Mickey Finn&quot;)</td>
<td>Note: the absence of street names implies only that illicitly manufactured versions of these drugs are not common. The legally manufactured versions are abused, however.</td>
<td></td>
</tr>
<tr>
<td>o Diphenhydramine Hydrochloride (Trade names &quot;Benadryl&quot;; &quot;Sominex&quot;, &quot;Dramamine&quot;)</td>
<td></td>
<td></td>
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<tr>
<td>o Diphenhydantoin Sodium (Trade name &quot;Dilantin&quot;)</td>
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<tr>
<td>o Ethchlorvynol (Trade name &quot;Placidyl&quot;)</td>
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<tr>
<td>o Gamma-Hydroxybutyrate (Street name “GHB”, “GBL”, “Liquid X”, 1,4</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>Butanediol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Glutethimide</td>
<td>(Trade name &quot;Doriden&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Methaqualone</td>
<td>(Trade names &quot;Parest&quot;; &quot;Quaalude&quot;; &quot;Sopor&quot;; &quot;Optimil&quot;; &quot;Mandrax&quot;)</td>
<td>Note: Methaqualone continues to be pharmaceutically manufactured in Mexico, trade name &quot;Mandrax&quot;.</td>
</tr>
<tr>
<td>o Methyprylon</td>
<td>(Trade Name &quot;Noludar&quot;)</td>
<td></td>
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<tr>
<td>o Paraldehyde</td>
<td>(Trade name &quot;Paral&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Zolpidem</td>
<td>(Trade names: &quot;Ambien&quot;, &quot;Zaleplon&quot;)</td>
<td>If available: display slides of these various drugs.</td>
</tr>
<tr>
<td>c. The Anti-Anxiety Tranquilizers</td>
<td></td>
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<tr>
<td>o Alprazolam</td>
<td>(Trade name &quot;Xanax&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Clonazepam</td>
<td>(Trade name “Klonopin”)</td>
<td>Point out that tens of millions of prescriptions for these anti-anxiety tranquilizers are written in America each year.</td>
</tr>
<tr>
<td>o Chlordiazepoxide</td>
<td>(Trade name &quot;Librium&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Diazepam</td>
<td>(Trade name &quot;Valium&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Estazolam</td>
<td>(Trade name &quot;ProSom&quot;)</td>
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</tr>
<tr>
<td>o Flunitrazepam</td>
<td>(Trade name “Rohypnol”)</td>
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</tbody>
</table>

IX-6C
(Anti-Anxiety)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>(Street Name “Roofies”, “Roches”)</td>
<td></td>
<td>If available: display slides of these various drugs.</td>
</tr>
<tr>
<td>o Flurazepam (Trade name &quot;Dalmane&quot;)</td>
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<tr>
<td>o Lorazepam (Trade name &quot;Ativan&quot;)</td>
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<tr>
<td>o Meprobamate (Trade names: “Miltown”, “Equanil”</td>
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<tr>
<td>o Oxazepam (Trade name &quot;Serax&quot;)</td>
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<tr>
<td>o Temazepam (Trade name &quot;Restoril&quot;)</td>
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<tr>
<td>o Triazolam (Trade name &quot;Halcion&quot;)</td>
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<tr>
<td>d. The Anti-Depressants</td>
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<tr>
<td>o Amitriptyline Hydrochloride (Trade names &quot;Elavil&quot;; &quot;Endep&quot;)</td>
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<tr>
<td>o Bupropion (Trade name: “Wellbutrin”)</td>
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<tr>
<td>o Citalopram (Trade name: “Celexa”)</td>
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<tr>
<td>o Desipramine Hydrochloride (Trade names &quot;Norpramin&quot;; &quot;Pertofrane&quot;)</td>
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IX-6D (Anti-depressants)
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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>o Doxepin Hydrochloride (Trade names &quot;Adapin&quot;; &quot;Sinequan&quot;)</td>
<td></td>
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<tr>
<td>o Escitalopram (Trade name: “Lexapro”)</td>
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<tr>
<td>o Fluoxetine (Trade names &quot;Prozac&quot;, “Sarafem”)</td>
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<tr>
<td>o Imipramine (Trade name &quot;Tofranil&quot;)</td>
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<tr>
<td>o Paroxetine (Trade name: “Paxil”)</td>
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<tr>
<td>o Phenelzine Sulfate (Trade name &quot;Nardil&quot;)</td>
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<tr>
<td>o Sertraline (Trade name: “Zoloft”)</td>
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</tr>
<tr>
<td>o Venlafaxine (Trade name “Effexor”)</td>
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<tr>
<td>e. The Anti-Psychotic Tranquilizers</td>
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<tr>
<td>o Chlorpromazine (Trade name &quot;Thorazine&quot;)</td>
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<tr>
<td>o Droperidol (Trade name &quot;Inapsine&quot;)</td>
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<tr>
<td>o Lithium Carbonate (Trade name &quot;Lithane&quot;)</td>
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<tr>
<td>o Lithium Citrate</td>
<td></td>
<td></td>
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<tr>
<td>o Haloperidol (Trade name &quot;Haldol&quot;)</td>
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Prozac generally does not have psychoactive properties in therapeutic doses.
### Aids

#### IX-6F
(Combos)

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<tbody>
<tr>
<td>f. The Combinations</td>
<td></td>
</tr>
<tr>
<td>o Chlordiazepoxide in combination with Amitriptyline (Trade name &quot;Limbitrol&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Chlordiazepoxide Hydrochloride in combination with Clidinium Bromide (Trade name &quot;Librax&quot;)</td>
<td></td>
</tr>
<tr>
<td>o Perphenazine in combination with Amitriptyline Hydrochloride (Trade name &quot;Triavil&quot; and &quot;Etrafon&quot;)</td>
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#### IX-7
(Methods of Ingestion)

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<tbody>
<tr>
<td>a. Most common and easiest method is <strong>orally</strong>.</td>
<td></td>
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<tr>
<td>b. Some abusers prefer to use intravenous injection for Barbiturates.</td>
<td></td>
</tr>
<tr>
<td>c. Some abusers experience a &quot;flash&quot; or &quot;rush&quot; from intravenous injection of Barbiturates, that they do not experience from oral ingestion.</td>
<td></td>
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<tr>
<td>d. The injection paraphernalia used for Barbiturates are very similar to those used</td>
<td></td>
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</table>

### Instructor Notes

- **Point out** that "Limbitrol" is a combination of an Anti-Anxiety Tranquilizer and an Anti-Depressant.
- **Point out** that “Librax” is a combination of a benzodiazepine and an anti-spasmodic, used to relax the muscles in the stomach wall.
- **Point out** that "Triavil" is a combination of an Anti-Psychotic Tranquilizer and an Anti-Depressant.

**Examples:**
- A spoon, for heating and dissolving the barbiturate
for Heroin.

Note: The "gauge" of a hypodermic needle indicates the width of the needle's inside diameter. The smaller the number, the larger the needle. For example, a 16 gauge needle is larger in diameter than a 20 gauge needle.

If available, display a slide showing ulcerated injection sites.

Point out that these ulcerations resemble burns placed on the skin by the tip of a cigarette.

Note: The "gauge" of a hypodermic needle indicates the width of the needle's inside diameter. The smaller the number, the larger the needle. For example, a 16 gauge needle is larger in diameter than a 20 gauge needle.

f. The injection sites on the skin of a Barbiturate abuser appear quite different from those of an Heroin addict.

g. A large swelling, about the size of a quarter or fifty cent piece frequently will appear at the Barbiturate injection site.

Point out that these effects result from the skin's reaction to the high alkaline content of the barbiturate solution.

h. Necrosis may occur: i.e. a decaying of the body's tissue at the injection site.

If available, display a slide showing ulcerated injection sites.

Point out that these ulcerations resemble burns placed on the skin by the tip of a cigarette.

i. The dead tissue may begin to separate from the living tissue, producing ulcerations.

j. The Barbiturate user who injects the drug usually will not display the same type of track marks as the heroin addict who uses repeated injections along the same vein.

k. Barbiturate abusers often will inject in parts of the body other than the
Aids Lesson Plan Instructor Notes

B. Possible Effects

1. CNS Depressants produce impairments of the human mind and body that essentially mirror alcohol impairment.

   a. reduced social inhibitions
   b. divided attention impairment
   c. slowed reflexes
   d. impaired judgment and concentration
   e. impaired vision
   f. lack of coordination
   g. slurred, mumbled, or incoherent speech
   h. produce a variety of emotional effects, such as euphoria, depression, suicidal

Solicit students' questions and comments about the overview of CNS depressants.

Point out that these effects will not necessarily appear in a predictable sequence as dose increases.

Clarification: impede the person's ability to concentrate on more than one thing at a time.

Elaboration: ability to focus eyes may be impaired; "double vision" may develop.

Emphasize: The extent to which a CNS depressant user will exhibit these effects will depend, in part, on the user's tolerance to these drugs. Persons habituated to a drug often won't exhibit its effects as clearly as will a novice user.
<table>
<thead>
<tr>
<th>C. Onset and Duration of Effects</th>
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<tbody>
<tr>
<td>1. Depressant drugs can be grouped loosely into four classes, based on how quickly they take effect and how long their effects last.</td>
</tr>
<tr>
<td>a. <strong>Ultrashort</strong>: very fast acting, very brief effects.</td>
</tr>
<tr>
<td>o take effect in a matter of seconds.</td>
</tr>
<tr>
<td>o effects last only a few minutes.</td>
</tr>
<tr>
<td>o very rarely are the &quot;drugs of choice&quot; for drug abusers.</td>
</tr>
<tr>
<td>Aids</td>
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</tr>
<tr>
<td>o ultra short depressants are sometimes used at the beginning of a surgical operation, in conjunction with an inhaled anesthetic.</td>
</tr>
<tr>
<td>o psychiatrists sometimes use ultra short depressants at the beginning of a session, to reduce the client's inhibitions and foster a free and open communication.</td>
</tr>
<tr>
<td>o common example of an ultra short depressant is Thiopental, brand name &quot;Pentothal&quot;.</td>
</tr>
<tr>
<td>Aids</td>
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</tr>
<tr>
<td>o short acting Depressants frequently are prescribed as a treatment for insomnia.</td>
</tr>
<tr>
<td>o they also may be used as a pre-anesthetic medication to calm a patient prior to surgery.</td>
</tr>
<tr>
<td>o common example of a short acting Depressant: Secobarbital, brand name &quot;Seconal&quot;.</td>
</tr>
<tr>
<td>c. Intermediate: relatively slow acting, but prolonged effects.</td>
</tr>
<tr>
<td>o generally take effect in about 30 minutes.</td>
</tr>
<tr>
<td>o effects typically last about 6-8 hours.</td>
</tr>
<tr>
<td>o fairly often abused, especially by users who desire a longer lasting state of intoxication.</td>
</tr>
<tr>
<td>o medical use of this class of drugs is similar to that of short acting Depressants. (i.e. treat insomnia, etc.)</td>
</tr>
<tr>
<td>o common example of an intermediate Depressant: Amobarbital, brand name &quot;Amytal&quot;, &quot;Tuinal&quot;.</td>
</tr>
<tr>
<td>o a popularly abused drug is Amobarbital in combination with Secobarbital.</td>
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<tr>
<td>Aids</td>
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</tr>
<tr>
<td>d. <strong>Long:</strong> delayed but long lasting effects.</td>
</tr>
<tr>
<td>o generally take effect about one hour after ingestion.</td>
</tr>
<tr>
<td>o effects typically last 8-14 hours.</td>
</tr>
<tr>
<td>o generally not the &quot;drugs of choice&quot; for abusers.</td>
</tr>
<tr>
<td>o however, some people will abuse the long acting Depressants if the more popular short and intermediate types are not readily available.</td>
</tr>
</tbody>
</table>
2. Alcohol as a specific example.

Ask students: "How would you classify alcohol in terms of the onset and duration of its effects?"

Probe question: Suppose an average person drank two shots of whiskey. How long would it be before he or she started to feel the effects?

(Solicit responses).

Probe question: How long would the average person continue to feel the effects of those two shots?

(Solicit responses).

Guide students toward the conclusion that alcohol would be classified as a short or short to intermediate depressant.

3. Other examples of short to intermediate Depressants.

IX-10 (Short - Intermediate Depressants)

- Barbiturates
  - Seconal ("reds")
  - Nembutal ("yellows")
  - Tuinal ("rainbows")
  - Amytal ("blues")

- Non-barbiturates
  - Noctec or Felsule ("Mickey Finn")
  - Doriden
  - Noludar

Point out that these are frequently abused CNS depressants, but they are not the only depressants that are abused.
D. Overdose Signs and Symptoms

1. Overdoses of Central Nervous System Depressants produce symptoms essentially identical to those of alcohol overdoses.

   a. Subject will become extremely drowsy and may pass out.

   b. The heartbeat (pulse) will slow.

   c. Respiration will become shallow.

   d. Skin may feel cold and clammy.

2. One major danger with CNS Depressant overdoses is death from respiratory failure.
### Aids

<table>
<thead>
<tr>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A sufficiently high dose of CNS Depressant will suppress the portions of the brain that control respiration.</td>
<td></td>
</tr>
<tr>
<td>b. This situation only rarely occurs from alcohol intoxication: usually, a drinker will pass out before he or she consumes enough alcohol to suppress respiration completely.</td>
<td></td>
</tr>
<tr>
<td>c. With other Depressants, it is relatively easy to take a fatal overdose.</td>
<td><strong>Point out</strong> that CNS depressants are often used as a means of suicide.</td>
</tr>
<tr>
<td>3. Another major danger with CNS Depressants occurs when they are combined with alcohol.</td>
<td></td>
</tr>
<tr>
<td>a. There is at least an additive effect when alcohol and another Depressant are taken together.</td>
<td></td>
</tr>
<tr>
<td>b. With many CNS Depressants, there may be a more than additive effect.</td>
<td><strong>Clarification</strong>: the combination of alcohol and certain other CNS Depressants may produce an effect greater than the sum of the effects of the two drugs independently.</td>
</tr>
<tr>
<td>c. Coroners have reported a number of cases in which neither the Alcohol level nor the Depressant level independently, would have been close to a fatal dose.</td>
<td></td>
</tr>
<tr>
<td>d. It is not possible to predict how great an effect will occur when Alcohol is mixed with another Depressant.</td>
<td><strong>Solicit students' questions and comments concerning overdoses of CNS depressants.</strong></td>
</tr>
<tr>
<td>e. However, it is clear that the combination is always risky.</td>
<td></td>
</tr>
</tbody>
</table>
E. Expected Results of the Evaluation

1. Observable evidence of impairment.
   - Horizontal Gaze
     Nytagmus will be present with suspects under the influence of CNS Depressants.
   - Vertical Gaze
     Nytagmus may be present, with high doses of Depressants for that individual.
   - Performance on Romberg, Walk and Turn, One Leg Stand, and Finger to Nose tests will be similar to that of suspects impaired by alcohol.
   - Blood pressure will be down
   - Pulse will be down
   - Body temperature generally will be normal

Point out that, if a person is under the influence of a combination of alcohol and some other CNS Depressant, the onset angle of HGN will not be consistent with the person's BAC: in other words, the eyes will start to jerk earlier than would be expected due to the alcohol alone.

Point out that subject's perception of time (on Romberg) may be slowed, i.e. may estimate "30 seconds" after more than 30 seconds have elapsed.

Possible exceptions:
Methaqualone and alcohol may cause the pulse to be increased.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX-11C</td>
<td>o pupil size generally will be normal</td>
<td>Exception: Methaqualone or Soma usually will cause pupils to dilate.</td>
</tr>
<tr>
<td>Darkroom</td>
<td>o pupillary reaction to light will be slowed</td>
<td></td>
</tr>
<tr>
<td>IX-11D</td>
<td>b. General indicators</td>
<td></td>
</tr>
<tr>
<td>General Indicators</td>
<td>o disoriented</td>
<td>Note: speech may also be incoherent.</td>
</tr>
<tr>
<td></td>
<td>o droopy eyes (ptosis)</td>
<td>Analogy: drunken behavior without the odor of alcoholic beverages.</td>
</tr>
<tr>
<td></td>
<td>o drowsiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o drunk-like behavior</td>
<td>But remind students: suspects may have consumed alcohol and some other CNS depre-</td>
</tr>
<tr>
<td></td>
<td>o flaccid muscle tone</td>
<td>sant. Hence, odor of alcoholic beverage may also be present.</td>
</tr>
<tr>
<td></td>
<td>o gait ataxia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o slow, sluggish reactions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o thick, slurred speech</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o uncoordinated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Summary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Demonstrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Video demonstrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show video of subject(s) under the influence of CNS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depressants. Relate behaviors and observations to the CNS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Symptomatology Chart.</td>
<td></td>
</tr>
</tbody>
</table>

IX-20
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX-12 (Depressant Symptomatology Chart)</td>
<td>b. Drug Evaluation and Classification Exemplar Demonstrations</td>
<td>Refer students to the exemplars found at the end of section IX of their student manuals.</td>
</tr>
</tbody>
</table>

Relate the items on the exemplars to the CNS Depressant Symptomatology Chart.

Solicit students' questions or suggestions concerning Expected Results of the Evaluation of subjects under the influence of Depressants.
Topics for Study

1. Name the six major subcategories of CNS Depressants.
   - Barbiturates, Non-Barbiturates, Anti-Anxiety Tranquilizers, Anti-Depressants, Anti-Psychotic Tranquilizers, Combinations

2. Name the four groups of Depressants based on onset and duration time factors.
   - Ultra short, Short, Intermediate, Long

3. To which subcategory of Depressants does Thorazine belong? To which subcategory does Chloral Hydrate belong? To which subcategory does Xanax belong?
   - Anti-Psychotic Tranquilizers, Non-Barbiturates, Anti-Anxiety Tranquilizers

4. Name a CNS Depressant that usually causes the pupils to dilate.
   - Soma, Methaqualone

5. What is the generic name for the drug that has the trade name "Prozac"?
   - Fluoxetine
Session IX

Central Nervous System Depressants

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

- Explain a brief history of the CNS Depressant category of drugs
- Identify common drug names and terms associated with this category
- Identify common methods of administration for this category

Central Nervous System Depressants (Continued)

- Describe the symptoms, observable signs and other effects associated with this category
- Explain the typical time parameters, i.e. on-set and duration of effects associated with this category

Central Nervous System Depressants (Continued)

- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs
- Correctly answer the “topics for study” questions at the end of this session

Alcohol - The Most Familiar CNS Depressant

Chloral Hydrate (“Mickey Finn”)

The first non-alcohol CNS depressant
Major Types of Non-alcohol CNS Depressants

- Barbiturates
- Non-Barbiturates
- Anti-Anxiety Tranquilizers
- Anti-Depressants
- Anti-Psychotic Tranquilizers
- Combinations

Specific Barbiturates Examples

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand Name</th>
<th>Street Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amytal</td>
<td>Barbitol</td>
<td>Bines, Bine Heavens</td>
</tr>
<tr>
<td>Tuinal</td>
<td>Amstrong</td>
<td>Rainbows, Christmas Trees</td>
</tr>
<tr>
<td>Nembutal</td>
<td>Phenobarbital</td>
<td>Yellows, Yellow Jackets</td>
</tr>
<tr>
<td>Luminal</td>
<td>Secobarbital</td>
<td>Pink Ladies</td>
</tr>
<tr>
<td>Secobarbital</td>
<td>Phenobarbital</td>
<td>Reds, Red Devils, RDs,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fender Benders, F-40's</td>
</tr>
</tbody>
</table>

Specific Non-Barbiturates Examples

<table>
<thead>
<tr>
<th>DRUG</th>
<th>BRAND NAMES</th>
<th>STREET NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbopropyl</td>
<td>Soma</td>
<td>Knock Out Drop, Mickey Drop</td>
</tr>
<tr>
<td>Chloral Hydrate</td>
<td>Retro, Meeting</td>
<td></td>
</tr>
<tr>
<td>Diphenhydantin</td>
<td>Benadryl, Sominex</td>
<td></td>
</tr>
<tr>
<td>Diphenhydantin</td>
<td>Antihistamines</td>
<td></td>
</tr>
<tr>
<td>Dihydroxybutan</td>
<td>Bilamin</td>
<td></td>
</tr>
<tr>
<td>Dihydroxybutan</td>
<td>Pamelon</td>
<td></td>
</tr>
<tr>
<td>Dihydroxybutan</td>
<td>Hydrokem</td>
<td></td>
</tr>
<tr>
<td>Dihydroxybutan</td>
<td>Dihydroxyz</td>
<td></td>
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<tr>
<td>Dihydroxybutan</td>
<td>Dihydroxybutan</td>
<td></td>
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<tr>
<td>Dihydroxybutan</td>
<td>Dihydroxyz</td>
<td></td>
</tr>
<tr>
<td>Dihydroxybutan</td>
<td>Dihydroxyz</td>
<td></td>
</tr>
</tbody>
</table>

Specific Anti-Anxiety Tranquilizers Examples

<table>
<thead>
<tr>
<th>DRUG</th>
<th>BRAND NAMES</th>
<th>STREET NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ativan</td>
<td>Xanax</td>
<td>Bars, Zany Bar</td>
</tr>
<tr>
<td>Chlordiazepine</td>
<td>Librium</td>
<td></td>
</tr>
<tr>
<td>Clonazepam</td>
<td>Clonixin</td>
<td></td>
</tr>
<tr>
<td>Valium</td>
<td>Valium</td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td>Ativan</td>
<td></td>
</tr>
<tr>
<td>Flunitrazepam</td>
<td>Rokspan</td>
<td>Ketones, Kodex</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Ambien</td>
<td></td>
</tr>
<tr>
<td>Trazodone</td>
<td>Trazon</td>
<td></td>
</tr>
</tbody>
</table>

Specific Anti-Depressants Examples

<table>
<thead>
<tr>
<th>DRUG</th>
<th>BRAND NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amethylphenidate</td>
<td>Ritalin, Rispal</td>
</tr>
<tr>
<td>Diphenhydantin</td>
<td>Soma</td>
</tr>
<tr>
<td>Captopril</td>
<td>Capoten</td>
</tr>
<tr>
<td>Diapram Hydrochlorde</td>
<td>Nuparen, Potenil</td>
</tr>
<tr>
<td>Desipram Hydrochlorde</td>
<td>Adapten, Sinequan</td>
</tr>
<tr>
<td>Bupropion</td>
<td>Wellbutrin</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>Prozac, Sicaline</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>Paxil</td>
</tr>
<tr>
<td>Phenelzine</td>
<td>Nardil</td>
</tr>
<tr>
<td>Sertraline</td>
<td>Zoloft</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>Effexor</td>
</tr>
</tbody>
</table>

Specific Anti-Psychotic Tranquilizers Examples

<table>
<thead>
<tr>
<th>DRUG</th>
<th>BRAND NAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine</td>
<td>Thorazine</td>
</tr>
<tr>
<td>Droperidol</td>
<td>Inapsine, Innovar</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>Haldol</td>
</tr>
<tr>
<td>Lithium Carbonate</td>
<td>Lithane</td>
</tr>
<tr>
<td>Lithium Citrate</td>
<td></td>
</tr>
</tbody>
</table>
Specific Combinations of Depressants

- Chlordiazepoxide in combination with Amitriptyline
  Trade name: “Limbitrol”
- Chlordiazepoxide Hydrochloride in combination with Clidinium Bromide
  Trade name: “Librax”
- Perphenazine in combination with Amitriptyline Hydrochloride
  Trade name: “Triavil”

Methods of Ingestion CNS Depressants

- Orally
- Injection

Possible Effects of CNS Depressants

- Reduced inhibitions
- Divided attention impairment
- Slowed reflexes
- Impaired judgment and concentration
- Impaired vision

- Lack of coordination
- Slurred mumbled or incoherent speech
- Emotional instability

Onset and Duration Classes

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

Examples of Short to Intermediate CNS Depressants

- Barbiturates
  - Seconal
  - Nembutal
  - Tuinal
  - Amytal
- Anti-anxiety tranquilizers
  - Valium
  - Librium
  - Xanax
  - Serax

Examples of Short to Intermediate CNS Depressants

- Non-barbiturates
  - Noctec or Felsule
  - Dormide
  - Notudar
  - Quaalude
  - Placidyl
  - Equanil or Miltown
  - Soma

Evaluation of Subjects Under the Influence of CNS Depressants

- Horizontal Gaze Nystagmus - present
- Vertical Gaze Nystagmus may be present (with high doses for that individual)
- Lack of Convergence - present
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose
Evaluation of Subjects Under the Influence of CNS Depressants

Vital Signs
- Blood pressure - down
- Pulse - down*
- Body temperature - normal
* Quaaludes and ETOH may elevate

Evaluation of Subjects Under the Influence of CNS Depressants

Dark Room Examinations
- Pupil size - normal*
- Pupillary reaction to light - slow
* Methaqualone and Soma will cause pupil dilation

Evaluation of Subjects Under the Influence of CNS Depressants

General Indicators
- Disoriented
- Droopy eyelids (Ptosis)
- Drowsiness
- Drunk-like behavior
- Flaccid muscle tone
- Gait Ataxia
- Slow, sluggish reactions
- Thick, slurred speech
- Uncoordinated

CNS Depressant Symptomatology Chart

<table>
<thead>
<tr>
<th>HGN</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical Gaze Nystagmus</td>
<td>Present (High dose for that individual)</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td>Present</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Normal*</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Slow</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Down**</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Down</td>
</tr>
<tr>
<td>Temperature</td>
<td>Normal</td>
</tr>
<tr>
<td>Muscle Tono</td>
<td>Flaccid</td>
</tr>
</tbody>
</table>

* Soma and Quaaludes usually dilate pupils
** Quaaludes and ETOH may elevate

QUESTIONS?
DRUG INFLUENCE EVALUATION

Evaluator: PCF David Pacoe, DRE No. 5293
Recording Witness: Sgt Tom Woodward

Date Examined/Time/Location: 08-06-04, 0845 Command

Sex: M, Race: W, DOB: 02-21-60, F, Arrester Officer (Name, ID No.): Ofc. Mike Gregor, MTA, ID: 07-5403-36692

Breath Results: "Refused Instrument #00334 00 % Chemical Test

Miranda Warning Given: Yes, What have you been drinking? How much? Time of last drink?

Time since: 8pm, Nothing, N/A

Are you sick, injured? Yes, No. Are you under care of doctor or dentist? Yes, No

Are you taking any medication or drugs? Yes, No

Attitude: Sullen, withdrawn, non-responsive

Coordination: Normal

Speech: Slurred

Eyes: Normal

Pupil size: Same

HGN: Normal

Divided Attention: Yes, No

Vertical Nystagmus: Yes, No

Lack of smooth pursuit: Yes, No

Maximum deviation: 45

Angle of onset: 25

Left Eye: Yes, No

Right Eye: Yes, No

Convergence: 20

Right eye: 20

Left eye: 20

Romberg Balance: 2.2

Walk and Turn Test: M

Cannot keep balance: Yes

Starts too soon: Yes

Locomotor: 2m

\[ \text{Steps walking} \]

\[ \text{Mines heel to toe} \]

\[ \text{Steps off line} \]

\[ \text{Rises arms} \]

\[ \text{Actual steps} \]

Type of Footwear: Loafers

Internal Clock: 46

Describe Turn Last, balance, staggered to right

Cannot do test (explain): N/A

Nasal area: Clear

Pupillary Light: Reaction to Light: Slow

Right: 4.0

Left: 6.0

Rebound: +

Hippus: Yes, No

Oral Cavity: Clear

Blood pressure: 110/70

Temperature: 98.5

Muscle tone: Near normal, Placid, Rigid

Comments:

What medication or drug have you been using? How much? Unknown

Time of use: Unknown

Where were the drugs used? (location) Brother's house

Time of arrest: 08-06-04, 0013

Evaluator: PCF David Pacoe, DRE No. 5293, Reviewed by: A. E. Smith, MD

Opinion of evaluator: No, Rule Out, Alcohol, Medical, CNS Depressant, Hallucinogen, Narcotic Analog, Inhale, Dallas Anesthetic, Cannabis

IX-27
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Cockroft, Carolyn

1. LOCATION: The evaluation of Carolyn Cockroft took place in the Tunnel Command Processing Room at the Maryland Transportation Authority Police Department.

2. WITNESSES: Arresting Officer Mike Gregor of the Maryland Transportation Authority P.D and Sgt. Tom Woodward of the Maryland State Police.

3. BREATH ALCOHOL TEST: Officer Gregor administered a breath test to Cockroft with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was notified by dispatch that Officer Gregor had arrested a subject for DUI and was requesting a drug evaluation. Writer contacted Officer Gregor at the M.T.A. Tunnel Command office where it was determined that the suspect had been observed driving at 30 MPH on I-95 near the tunnel. When contacted, the suspect appeared dazed and disoriented. She was unable to perform the roadside SFST's as directed and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the Processing Room. She was quiet, withdrawn and slow to respond to questions. When she would try to walk, she would stumble and several times nearly fell.

6. MEDICAL PROBLEMS AND TREATMENT: None observed or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: The suspect exhibited a 2" front to back and side to side sway. She estimated 30 seconds in 46 seconds. Walk and Turn: The suspect lost her balance during the instructions, started to soon, stepped off the line, missed heel to toe, raised her arms for balance, staggered to the right while turning and took two extra steps returning back down the line. One Leg Stand: The suspect swayed, raised her arms for balance, hopped and put her foot down. Finger to Nose: The suspect missed the tip of her nose on five of the six attempts.

8. CLINICAL INDICATORS: The suspect exhibited six clues of HGN and a Lack of Convergence. Two of her pulse readings were below the normal range and her Systolic blood pressure was below the normal range.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT'S STATEMENTS: The suspect admitted taking "some medicine" her brother gave her. She also stated that she did not know what the medicine was.

11. DRE'S OPINION: In my opinion Cockroft is under the influence of a CNS Depressant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample for analysis.

13. MISCELLANEOUS:
DRUG INFLUENCE EVALUATION

Evaluator:
Officer Jason Craven, CHP

Record/Witness:
Sgt. Helena Williams, CHP

Date and Time: 09-06-05 2110 hrs.

Location: Stockton

Breed: Cheeseburger

By: Dpy. Rogers

What have you eaten today? Which? Cheeseburger

When have you been drinking? How much? 6 pm

Time now? About 9 PM

Last night? 8 hrs

Are you sick or injured? No

Are you diabetic or epileptic? No

Are you under the care of a doctor or dentist? Yes

Are you taking any medication or drugs? Yes

"Valium, 4 times a day"

Attitude: Cooperative

Taste: Alcoholic Beverage

Speech:
Slurred, thick

Concentration:
None

Glasses: No

Contacts, if so: No

Hard: No

Soft: Yes

Pupil size: Equal

Equal: Yes

Unequal: No

Able to follow stimulus:
Yes

Eyes:
Bloodshot

Convergent: No

Blepharitis:

Weak:

Squint:

Right eye: No

Left eye: No

Equal:

Unequal:

Nystagmus:

Vertical:

No

Convergence:

Right eye:

Left eye:

20/30

One Leg Stand

21

Aim:

L

R

Ways while balancing:

Uses arms to balance:

Hopping:

Puts foot down:

Type of footwear:

Lace up shoes

Nasal area:

Clear

Oral cavity:

Clear

Reaction to Light:

Slow

Draw lines to spots touched

RIGHT ARM

No visible marks

LEFT ARM

No visible marks

Pupil Size

Room Light

Darkness

Direct

Left

Right

4.5

6.5

3.5

4.5

6.5

3.5

Hippus:

Yes

No

Rebound dilation:

Minutes:

Reaction to Light:

6 clock

Joes Tavern

Time of use:

6 clock

Where were the drugs used? (Location):

DRE Test:

ID # 8225

Reviewed by:

Sgt. Helena Williams 9/10/05

Opinion of evaluator:

Rule Out

Alcohol

CNS Stagant

Disassociative

Inhalant

Medical

CNS Depressant

Hallucinogen

Narcotic Analgesic

Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Henry, Michael J.

1. LOCATION: The examination of Michael Henry took place in the DRE evaluation room of the Stockton Blvd. Partnership.

2. WITNESSES: Arresting Officer, Deputy Mike Rogers, Sacramento Co. S.O. and Sgt. Helena Williams, CHP.

3. BREATH ALCOHOL TEST: Deputy Rogers administered a breath test to Henry with a 0.05% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by dispatch and requested to conduct a drug evaluation for Deputy Rogers. Writer contacted Deputy Rogers at the Stockton Blvd. Partnership where he advised that he had located the suspect slumped over in the driver's seat of a vehicle stopped in the S/B traffic lane of S.R. 99. Deputy Rogers further advised that the suspect appeared to be highly intoxicated and performed poorly on the SFSTs.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in a slumped position in a chair next to the interview room desk. The suspect was mumbling, had thick, slurred speech and was slow to respond to questions.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect stated he was under the care of a doctor for stress.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: The suspect swayed approximately 3" front to back and estimated 30 seconds in 50 seconds. Walk and Turn: The suspect lost his balance twice during the instructions, stepped off the line, missed heel to toe, raised his arms for balance and staggered while turning. One Leg Stand: Suspect swayed, raised his arms and put his foot down. Finger to Nose: Suspect missed the tip of his nose on each attempt.

8. CLINICAL INDICATORS: The suspect exhibited HGN and a Lack of Convergence. One of his pulse readings and his blood pressure was below the normal range.

9. SIGNS OF INGESTION: Suspect had an odor of alcoholic beverage on his breath.

10. SUSPECT'S STATEMENTS: The suspect admitted drinking "a couple of beers" and taking Valium. He stated he takes the Valium four times a day for stress.

11. DRE’S OPINION: In my opinion Henry is under the influence of Alcohol (ETOH) and another CNS Depressant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: The suspect voluntarily produced a pill bottle containing his Valium pills. He admitted filling the prescription for 30 pills two days earlier. There were only 12 pills remaining in the bottle.
One Hour and Forty-Five Minutes

SESSION X

CENTRAL NERVOUS SYSTEM STIMULANTS
SESSION X  CENTRAL NERVOUS SYSTEM STIMULANTS

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

o Explain a brief history of the CNS Stimulant category of drugs.

o Identify common drug names and terms associated with this category.

o Identify common methods of administration for this category.

o Describe the symptoms, observable signs and other effects associated with this category.

o Describe the typical time parameters, i.e. onset and duration of effects, associated with this category.

o List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs.

o Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overview of the Category</td>
<td>o  Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects</td>
<td>o  Review of Drug Evaluation and Classification Exemplars</td>
</tr>
<tr>
<td>C. Onset and Duration of Effects</td>
<td>o  Reading Assignments</td>
</tr>
<tr>
<td>D. Overdose Signs and Symptoms</td>
<td>o  Video Presentations</td>
</tr>
<tr>
<td>E. Expected Results of the Evaluation</td>
<td>o  Slide Presentations</td>
</tr>
</tbody>
</table>
AIDES LESSON PLAN  

INSTRUCTOR NOTES

CENTRAL NERVOUS SYSTEM STIMULANTS

25 Minutes

Display Title Slide

Session title on wall chart.

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

A. Overview of the Category

1. CNS Stimulants speed up the operation of the Central Nervous System.
   a. "Speed Up" does not mean "improve".
   b. The "speeding up" results in increased heartbeat, pulse, respiration, blood pressure and temperature.
   c. All of these effects can lead to physical harm to the stimulant user.

Emphasize that abuse of CNS Stimulants does not make the brain work "better" or "smarter". Rather, they induce the brain to cause many of the body's organs to work harder, but not better.

However: Robert Louis Stevenson wrote "The Strange Case of Dr. Jekyll and Mr. Hyde" while under the influence of cocaine. He wrote sixty thousand words in six days.
d. The "speeding up" also produces nervousness, irritability and an inability to concentrate or think clearly.

e. These psychological effects can lead to unpredictable and bizarre behavior by the stimulant user.

2. There are three major subcategories of Central Nervous System Stimulants.

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td>d. The &quot;speeding up&quot; also produces nervousness, irritability and an inability to concentrate or think clearly.</td>
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<td></td>
<td>e. These psychological effects can lead to unpredictable and bizarre behavior by the stimulant user.</td>
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<td>2. There are three major subcategories of Central Nervous System Stimulants.</td>
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</tr>
<tr>
<td></td>
<td>a. <strong>Cocaine</strong></td>
<td></td>
</tr>
<tr>
<td>X-3A (Cocaine)</td>
<td>b. <strong>The Amphetamines</strong></td>
<td>Point out that the Amphetamines include a large number of individual drugs, only a few of which are listed on Visual X-1.</td>
</tr>
<tr>
<td></td>
<td>Examples:</td>
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<td></td>
<td>o Methamphetamine</td>
<td></td>
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<tr>
<td></td>
<td>o Amphetamine Sulfate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Desoxyn</td>
<td></td>
</tr>
<tr>
<td>X-3B (Amphet)</td>
<td>c. <strong>Others</strong></td>
<td>Point out that there are many &quot;other&quot; CNS Stimulants (i.e., non-Cocaine and non-Amphetamines); the ones listed on the visual are only a few of those.</td>
</tr>
<tr>
<td></td>
<td>o Ritalin (methylphenidate hydrochloride)</td>
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<tr>
<td></td>
<td>o Preludin (phenmetrazine hydrochloride)</td>
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<td></td>
<td>o Cylert (pemoline)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Ephedrine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Caffeine</td>
<td></td>
</tr>
<tr>
<td>X-3C (Others)</td>
<td></td>
<td>Point out that we will focus on Cocaine and the Amphetamines, because they are the most widely abused CNS Stimulants. But, the students should be aware that there are other stimulant drugs.</td>
</tr>
</tbody>
</table>
3. Cocaine derives from the coca plant.

   a. The plant is native to South America.

   b. Cocaine is made from the leaves of the coca plant.

   c. Archaeological evidence indicates that natives of Peru chewed coca leaves 5,000 years ago.

   d. Sigmund Freud personally experimented with Cocaine for approximately 3 years.

   e. Small quantities of cocaine originally were included in the formula for Coca Cola.

   Coca plant: Scientific name "Erythroxylon Coca".

   NOTE: the coca plant should not be confused with the cocoa plant, from which chocolate is made.

4. Amphetamines were first synthesized near the end of the 19th Century.

   a. The first use of Amphetamines for medical purposes began in the 1920's.

   b. Initial medical application was to treat colds.

   Use of Cocaine in products such as Coca Cola was outlawed by the Pure Food and Drug Law of 1906.

   o Amphetamines cause the nasal membranes to shrink.
### Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
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<tbody>
<tr>
<td>X-5B</td>
<td>(Medical Uses)</td>
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<th>Instructor Notes</th>
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<td><strong>Lesson Plan</strong></td>
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<tbody>
<tr>
<td>o This gives temporary relief from stuffy nasal passages.</td>
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<tr>
<td>c. Present day medical purposes for amphetamines include:</td>
<td></td>
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<tr>
<td>o control symptoms of narcolepsy</td>
<td></td>
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<tr>
<td>o control certain hyperactive behavioral disorders</td>
<td></td>
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<tr>
<td>o relieve or prevent fatigue to allow persons to perform essential tasks of long duration</td>
<td></td>
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<tr>
<td>o treat mild depression</td>
<td></td>
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<tr>
<td>o control appetite</td>
<td></td>
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<tr>
<td>o antagonize the effects of Depressant drugs</td>
<td></td>
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<tr>
<td>o prevent and treat surgical shock</td>
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</tbody>
</table>

**Point out** that much more effective drugs have been developed to treat cold symptoms. Amphetamines are no longer prescribed as cold remedies.

**Present day medical purposes for amphetamines include:**

- **Narcolepsy:** an extremely rare disorder that causes the individual to fall asleep compulsively, often several hundred times per day.
  - Example: Ritalin or Cylert are commonly prescribed for children diagnosed with ADD or similar disorders.

- Point out that the U.S. Air Force previously gave pilots amphetamines to keep them alert on long flights. Amphetamines have also had other short term military applications.

- Many over the counter appetite control products contain CNS Stimulants as their active ingredient.
  - **Remind students** that two drugs are **antagonistic** when the signs and symptoms of one are opposite to the signs and symptoms of the other.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>o</td>
<td>maintain blood pressure during surgery</td>
<td>Parkinson's Disease: a form of paralysis characterized by muscular rigidity, tremor and weakness.</td>
</tr>
<tr>
<td>o</td>
<td>treat Parkinson's Disease</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>enhance the action of certain analgesic (pain killer) drugs</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Numerous pharmaceutical companies manufacture Amphetamines for these purposes.</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Examples of common pharmaceutical Amphetamines.</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td><strong>Dexedrine</strong> (dextroamphetamine sulfate) used to treat narcolepsy and hyperkinetic behavior, and for weight control. (Street names &quot;Dexies&quot;, &quot;Hearts&quot;)</td>
<td>NOTE: Dexedrine probably is the most commonly prescribed Amphetamine.</td>
</tr>
<tr>
<td>o</td>
<td><strong>Benzedrine</strong> (Amphetamine sulfate) used to treat narcolepsy, hyperkinetic behavior and weight problems. (Street names &quot;Bennies&quot;, &quot;Whites&quot;, &quot;Cartwheels&quot;)</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>o Desoxyn (Methamphetamine hydrochloride, also known as desoxyephedrine) used in weight reduction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Adderall (Combination of dextroamphetamine and amphetamine)</td>
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</tbody>
</table>

5. Large quantities of Amphetamines are also illegally manufactured in this country.

a. The most commonly abused illicit Amphetamine is Methamphetamine.

b. Methamphetamine hydrochloride is a white to light brown crystalline powder, or clear chunky crystals resembling ice. Methamphetamine base is a liquid.

c. The majority of street Methamphetamine is produced in clandestine laboratories.

Note: Clandestine production normally involves the reduction of L-ephedrine or d-pseudoephedrine over red phosphorus with hydroiodic acid, or reduction with sodium or lithium in condensed liquid ammonia.

d. Medicinally, methamphetamine is used in the treatment of narcolepsy, ADD and ADHD.

Attention Deficit Disorder (ADD)

Attention Deficit Hyperactivity Disorder (ADHD)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>e. <strong>Methamphetamine</strong> is also known as Methedrine or methamphetamine hydrochloride.</td>
<td>If available: display slides of illicitly manufactured methamphetamine and amphetamine sulfate.</td>
</tr>
<tr>
<td></td>
<td>f. Its more common &quot;street names&quot; are &quot;speed&quot;; &quot;crank&quot;; &quot;ice&quot;; &quot;crystal&quot;; &quot;meth&quot;; and, &quot;water&quot;.</td>
<td></td>
</tr>
<tr>
<td>X-7B (Other Stimulants)</td>
<td>6. There are some other CNS Stimulants, apart from Cocaine or the Amphetamines.</td>
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<tr>
<td></td>
<td>a. <strong>Preludin</strong> is a licitly manufactured CNS Stimulant that is not an Amphetamine:</td>
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<tr>
<td></td>
<td>o generic name <strong>phenmetrazine hydrochloride</strong></td>
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<td></td>
<td>o used in weight control</td>
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<td></td>
<td>o has all of the basic effects of amphetamine</td>
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</tr>
<tr>
<td></td>
<td>b. <strong>Ritalin</strong> is another licitly manufactured, non-Amphetamine CNS Stimulant:</td>
<td>Ask students if they know of any children for whom Ritalin has been prescribed.</td>
</tr>
<tr>
<td></td>
<td>o generic name <strong>methylphenidate hydrochloride</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o used to treat mild depression, hyperkinetic behavior, narcolepsy and drug induced lethargy produced by CNS Depressants.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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</tr>
<tr>
<td>o has many of the basic clinical effects of Amphetamine.</td>
<td>If available: display slides of Preludin and Ritalin.</td>
<td></td>
</tr>
<tr>
<td>c. Cylert is a third licitly manufactured, non-Cocaine and non-Amphetamine CNS Stimulant:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o generic name Pemoline.</td>
<td></td>
<td></td>
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<tr>
<td>o used to treat Attention Deficit Disorder (ADD), also known as &quot;hyperactivity&quot;.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o has many of the basic clinical effects of Amphetamine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Ephedrine is a licitly manufactured stimulant used in diet aides, body building supplements. It can also be found in herbal teas and preparations.</td>
<td>Remind the students that we will focus on Cocaine and the Amphetamines for our discussion of CNS Stimulants and their effects.</td>
<td></td>
</tr>
<tr>
<td>e. Cathine and Cathinone are the two psychoactive chemicals derived from the Khat plant. It originates from the sub-Sahara regions of Africa.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Methcathinone is illicitly manufactured from common household chemicals. Effects are very similar to methamphetamine.</td>
<td>Also known as “cat”.</td>
<td></td>
</tr>
</tbody>
</table>
7. Methods of ingestion of CNS Stimulants.

a. There are a variety of ways in which the different CNS Stimulants may be ingested.

b. Cocaine is commonly insufflated (snorted), smoked, injected and taken orally.

c. In order to be smoked, a pure form of Cocaine is required.

   o Much of the Cocaine sold in this country is mixed with other materials, or chemically bonded to other elements.

   o Various chemical processes can be used to "free" the Cocaine from other elements and impurities.

   o One such process produces pure Cocaine in the form of small chunks.

   o These chunks are known as "Crack" or "Rock Cocaine".


d. Licitly manufactured Amphetamines are taken orally, in the form of tablets, capsules and liquid elixirs.

NOTE: the term "Crack" derives from the cracking sound produced when the chunks are burned for smoking.
### Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
<th>e. Illicitly manufactured Methamphetamine most commonly is injected or smoked but sometimes may be snorted or taken orally.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f. The smokeable forms of Methamphetamine are known as “Crystal Meth” or “Ice”. They contain the same active chemical compound as powdered Methamphetamine, but undergo a recrystallization process in which some impurities are removed.</td>
</tr>
<tr>
<td></td>
<td>g. Illicitly manufactured Amphetamine sulfate usually is produced in tablet form (called &quot;Mini bennies&quot;) and is taken orally.</td>
</tr>
<tr>
<td></td>
<td><strong>B. Possible Effects</strong></td>
</tr>
<tr>
<td></td>
<td>1. Both Cocaine and the Amphetamines produce euphoria, a feeling that there are no problems.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructor Notes</th>
<th>Point out that bruising often will be seen around a Methamphetamine injection site.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Point out that &quot;Ice&quot; is a clear crystal similar in appearance to rock candy, crushed ice, or broken glass.</td>
</tr>
<tr>
<td></td>
<td>Point out that “Crystal Meth” is less pure and has a cloudy appearance or maybe yellowish, tan, or even brown in color.</td>
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<tr>
<td></td>
<td>Solicit students' questions and comments about the overview of CNS Stimulants.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X-8B (Methods of Ingestion)</th>
<th>5 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-9 (Possible Effects)</td>
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### Aids Lesson Plan

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<tbody>
<tr>
<td>b.</td>
<td>With Cocaine, but not with Amphetamines, there is an anesthetic effect, and the dulling of pain may contribute to the euphoria.</td>
</tr>
<tr>
<td>2.</td>
<td>Stimulant users tend to become hyperactive, indicated by a nervousness, extreme talkativeness, and an inability to sit still.</td>
</tr>
<tr>
<td>3.</td>
<td>CNS Stimulants tend to release inhibitions, allowing users to commit acts that they normally would avoid.</td>
</tr>
<tr>
<td>4.</td>
<td>Stimulant users misperceive time and distance.</td>
</tr>
<tr>
<td>5.</td>
<td>Persons under the influence of CNS Stimulants become easily confused, and lose the ability to concentrate or to think clearly for any length of time.</td>
</tr>
<tr>
<td>C.</td>
<td>Onset and Duration of Effects</td>
</tr>
<tr>
<td>1.</td>
<td>The onset and duration of effects are quite different for Cocaine as compared to the Amphetamines.</td>
</tr>
<tr>
<td>a.</td>
<td>Generally speaking, Cocaine's effects are much briefer than are Amphetamine's.</td>
</tr>
</tbody>
</table>

**Example:** To the subject, time seems to be speeded up, so that 2 hours may seem like two minutes.

**Point out** that this lack of concentration makes it very difficult for the user to perform divided attention tests successfully.

Solicit students' questions and comments concerning possible effects of CNS Stimulants.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>b. The time parameters of Cocaine vary with the method of ingestion.</td>
<td>Note: Subjects that have ingested both Cocaine and Alcohol will produce a metabolite known as “Cocaethylene”. Which has a half-life of four hours possibly extending the effects of Cocaine longer than the norm.</td>
<td></td>
</tr>
</tbody>
</table>

2. When Cocaine is smoked, or "freebased", the drug goes immediately to the lungs, and is absorbed into the blood stream very rapidly.
   a. The smoker begins to feel the effects of the Cocaine virtually immediately.
   b. The "rush", or euphoria, is reported to be very intense.
   c. However, the euphoric effects only last 5-10 minutes after the Cocaine is smoked.

3. When Cocaine is injected, the drug is passed directly to the blood stream, where it is carried swiftly to the brain.
   a. The effects are felt within seconds.
   b. The onset of effects is very intense.
   c. The effects usually continue to be felt for 45-90 minutes.

Note: Injection sites will be discussed in Session XVII (Narcotic Analgesics).
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>4.</td>
<td>When Cocaine is snorted (insufflated), the onset of effects is not quite as rapid as with smoking or injecting.</td>
<td><strong>Point out</strong> that snorting remains a very popular method of ingesting Cocaine.</td>
</tr>
<tr>
<td></td>
<td>a. The user typically feels the onset of effects within 30 seconds after snorting the drug.</td>
<td></td>
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<tr>
<td></td>
<td>b. Although the &quot;rush&quot; occurs, it is not quite as intense as it is when the Cocaine is smoked or injected.</td>
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<tr>
<td></td>
<td>c. The effects from snorting usually last from 30-90 minutes.</td>
<td></td>
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<tr>
<td>5.</td>
<td>Oral ingestion of Cocaine usually is the least preferred method.</td>
<td><strong>Clarification</strong>: the effects of Cocaine taken orally may last from 45-120 minutes.</td>
</tr>
<tr>
<td></td>
<td>a. The user generally does not begin to feel the effects for 3-5 minutes.</td>
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<tr>
<td></td>
<td>b. The effects are not as intense as they are with other methods of ingestion.</td>
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<tr>
<td></td>
<td>c. However, the effects may last 15-30 minutes longer than with other methods.</td>
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<tr>
<td>6.</td>
<td>With all methods of ingestion, the duration of Cocaine's effects tend to be briefer than the effects of most other drugs.</td>
<td><strong>Point out</strong> that it is very possible that a Cocaine user may not be examined by a DRE until at least 30 minutes following the use of the drug. Often, much more time will have elapsed. For this reason, Cocaine use may be difficult to ascertain from the drug evaluation.</td>
</tr>
<tr>
<td></td>
<td>a. As the effects wear off, it becomes very difficult to observe evidence of impairment.</td>
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### Aids

#### X-11 (Meth Time Factors)

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<tr>
<td><strong>b.</strong></td>
<td>If the suspect is not evaluated by a Drug Recognition Expert fairly soon after the suspect has been apprehended, the DRE may not uncover evidence of the CNS Stimulant.</td>
<td></td>
</tr>
</tbody>
</table>

7. When Methamphetamine is injected, the initial effects are very similar to the injection of Cocaine.

   |   |   |
|---|---|---|
| **a.** | The user begins to feel the effects within a few seconds. |   |
| **b.** | The "rush" is very intense, and lasts at a high level of intensity for 5-30 seconds. |   |
| **c.** | Unlike Cocaine, Methamphetamine's effects are longer and may last up to 12 hours after injection. |   |

8. When Methamphetamine is smoked, the rush is very intense, and the effects are long lasting. The user stays "high" for 4-8 hours with residual effects lasting up to 12 hours.

9. When Methamphetamine is snorted or taken orally, the onset takes longer, the rush is much less intense, and the effects are much briefer.

### Lesson Plan

#### D. Overdose Signs and Symptoms

1. Overdoses of Cocaine or Amphetamines can cause the pleasurable effects to turn into panic and often violent behavior. If the overdose is caused by

### Instructor Notes

9. | Solicit students' comments and questions concerning time parameters of Cocaine and Methamphetamine. |
### Cocaine

Aids Lesson Plan

Cocaine, it is commonly referred to as Cocaine Psychosis or Cocaine Delirium.

- a. Subject may become very confused and aggressive.
- b. Subject may suffer convulsions and faint or pass into a coma.
- c. Heartbeat (pulse) will increase, possibly dramatically.
- d. Hallucinations may occur.

2. Death can occur from sudden respiratory failure, or from heart arrhythmia, leading to cardiac arrest.

3. Another danger is that subjects may attempt to treat CNS Stimulant overdose with Barbiturates, possibly leading to overdose of CNS Depressants.

### Expected Results of the Evaluation

1. Observable evidence of impairment.
   - Horizontal Gaze Nystagmus will not be present with suspects under the influence of CNS Stimulants.
   - Vertical Gaze Nystagmus will not be present.

Note: It is important that officers are aware of this to avoid in custody deaths.

Solicit students' comments and questions concerning overdoses of CNS Stimulants.

Example: The feeling that bugs are crawling under the skin is also known as “Coke Bugs”.

Write on dry erase board or flip-chart “Cocaine Psychosis or Cocaine Delirium”.

60 Minutes

X-12A (Evaluation Results)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o Lack of Convergence will not be evident</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Performance on Romberg will be impaired.</td>
<td>Point out that CNS Stimulants impair the user's perception of time, so that the subject's estimate of 30 seconds, on the Romberg test, may be speeded up.</td>
</tr>
<tr>
<td></td>
<td>o Performance on Walk and Turn may be impaired due to the suspect's hyperactivity and inability to concentrate.</td>
<td>Example: suspect may start too soon on Walk and Turn, and may tend to walk fast, thus losing balance or missing heel to toe.</td>
</tr>
<tr>
<td></td>
<td>o Performance on One Leg Stand may be impaired due to the suspect's hyperactivity.</td>
<td>Example: Suspect may also count very rapidly on the one leg stand test.</td>
</tr>
<tr>
<td></td>
<td>o Performance on Finger to Nose tests will be impaired.</td>
<td>His or her finger movements may be abrupt, jerky and inaccurate.</td>
</tr>
<tr>
<td>X-12B (Vital Signs Exams)</td>
<td>o blood pressure generally will be elevated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o pulse generally will be increased</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o body temperature generally will be elevated</td>
<td></td>
</tr>
<tr>
<td>X-12C (Darkroom)</td>
<td>o pupils generally will be dilated</td>
<td>Point out that the technical term for &quot;dilated pupils&quot; is Mydriasis.</td>
</tr>
<tr>
<td></td>
<td>o pupil reaction to light generally will be slow</td>
<td></td>
</tr>
</tbody>
</table>
b. General indicators:

- anxiety
- body tremors
- dry mouth
- euphoria
- excited
- exaggerated reflexes
- eyelid tremors
- grinding teeth (bruxism)
- increased alertness
- insomnia
- irritability
- redness to nasal area
- restlessness
- rigid muscle tone
- runny nose
- talkative

NOTE: Indicators associated with the nasal area may be evident if the subject is in the habit of snorting Cocaine.

3. Summary

4. Demonstrations

a. Video demonstrations

b. Drug Evaluation and Classification exemplar demonstrations.

Show video tape of subject(s) under the influence of CNS Stimulants. Relate behavior/observations to the CNS Stimulant Symptomatology Chart.

Refer students to the exemplars found at the end of Section X in their student manuals.

Relate the items on the exemplars to the CNS Stimulant Symptomatology Chart.

Solicit students' questions or comments concerning expected results of the evaluation of subjects under the influence or CNS Stimulants.
**Topics for Study**

1. Why is it sometimes difficult for a DRE to obtain evidence of CNS Stimulant influence when examining a cocaine user?

   Cocaine, in general, is a fairly fast-acting, but short duration drug. When smoked, the user feels a “rush,” or very intense euphoria, but the effects only continue for 5-10 minutes. When injected, the effects begin quickly but only last 45-90 minutes.

2. What kinds of illicitly manufactured Amphetamines are most commonly abused?

   The two most commonly illicitly abused amphetamines are Methamphetamine and Amphetamine Sulfate.

3. Name two CNS Stimulants other than Cocaine or the Amphetamine compounds.

   Ritalin, Preludin, Cylert

4. How do CNS Stimulants usually affect the blood pressure and pulse rate?

   CNS Stimulants usually elevate both blood pressure and pulse rate.

5. True or false: A person under the influence of a CNS Stimulant alone usually will not exhibit Horizontal Gaze Nystagmus?

   True

6. What is "bruxism"?

   Grinding the teeth. This behavior is often seen in persons who are under the influence of Cocaine or other CNS Stimulants.
Session X
Central Nervous System Stimulants

Central Nervous System Stimulants (Continued)

- Describe the typical time parameters, i.e. on-set and duration of effects associated with this category
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs
- Correctly answer the "topics for study" questions at the end of this session

Subcategories of CNS Stimulants (Continued)

- Amphetamines
  - Methamphetamine
  - Amphetamine Sulfate
  - Desoxyn

Subcategories of CNS Stimulants (Continued)

- Others
  - Ritalin
  - Proludin
  - Cyler
  - Ephedrine
  - Caffeine
Coca Plant

“Erythroxylon Coca”

Medical Uses of Amphetamines

- Control appetite
- Control symptoms of narcolepsy
- Control hyperactivity in children
- Relieve or prevent fatigue
- Treat mild depression

Other Medical Uses of Amphetamines

- Antagonize effects of depressants
- Prevent and treat surgical shock
- Maintain blood pressure during surgery
- Treat Parkinson’s disease
- Enhance the action of analgesic drugs

Commonly Prescribed Pharmaceutical Amphetamines

- Dextroamphetamine
  - Dexedrine
- Amphetamine Sulfate
  - Benzedrine
- Methamphetamine Hydrochloride
  - Desoxyn

Commonly Abused Illicit Amphetamines

Methamphetamine

Amphetamine Sulfate

Other CNS Stimulants
(Besides Cocaine or Amphetamines)

- Preludin
  - Phenmetrazine Hydrochloride
- Ritalin
  - Methylphenidate Hydrochloride
- Cylert
  - Pemoline
Methods of Ingesting Stimulants

- Cocaine
  - Injection
  - Orally
  - Snorting
  - Smoking

Methods of Ingesting Stimulants (Continued)

- Methamphetamine
  - Injection
  - Orally
  - Snorting
  - Smoking

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

Possible Effects of CNS Stimulants

- Euphoria
- Hyperactivity
- Inability to concentrate
- Misperception of time and distance
- Release of inhibitions

Cocaine Time Factors

- Snorted
  - Effects are felt within 30 seconds
  - Intense "rush"
  - Effects last 30-90 minutes

- Injected
  - Effects are felt within seconds
  - Very intense "rush"
  - Effects last 45-90 minutes

- Orally
  - Effects begin within 3-5 minutes
  - Effects are less intense
  - Effects last 45-120 minutes

Methamphetamine Time Factors

- Effects are felt within seconds
- "Rush" is very intense for 5-30 seconds
- Effects can last up to 12 hours

Evaluation of Subjects Under the Influence of CNS Stimulants

- HGN or VGN - none
- Lack of Convergence - none
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose
Evaluation of Subjects Under the Influence of CNS Stimulants

Vital Signs:
- Blood pressure - up
- Pulse - up
- Body temperature - up

Evaluation of Subjects Under the Influence of CNS Stimulants

Dark Room Examinations:
- Pupils - dilated (Mydriasis)
- Pupillary reaction to light - slow

Evaluation of Subjects Under the Influence of CNS Stimulants

General Indicators
- Anxiety
- Body tremors
- Bruxism
- Dry mouth
- Euphoria
- Exaggerated reflexes
- Talkative

Evaluation of Subjects Under the Influence of CNS Stimulants

General Indicators
If subject snorts Cocaine:
- Redness to nasal area
- Runny nose

CNS Stimulant Symptomatology Chart

<table>
<thead>
<tr>
<th>Symptom</th>
<th>None</th>
<th>None</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil Size</td>
<td>Dilated (mydriasis)</td>
<td>Slow</td>
<td></td>
</tr>
<tr>
<td>Reaction to Light</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
<td>Up</td>
<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up</td>
<td>Up</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Possibly rigid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

QUESTIONS?
**DRUG INFLUENCE EVALUATION**

**Evaluator:** Sgt. Ross Batson, A.H.R.  
**DOB:** 2/89  
**Rolling Log No.:** 07-07-15  
**Session X #1**

**Arrestee's Name, Last, First:** Hedlund, James R.  
**DOB:** 7-18-65  
**Sex:** M  
**Race:** W  
**Arresting Officer (Name, ID No.):** TFC. Jeff Hust, A.S.P.

**Date Examined/Time/Location:** 7/18/04, 2:23 P.M. County Jail

**Mind Call Warning Given:** Yes  
**Time Case took:** Last Night

**Time now?** 8:00 P.M.  
**How long?** 3 hours

**Do you take insulin?** Yes  
**Do you have any physical defects?** No

**Are you taking any medication or drugs?** Yes  
**Are you under the care of a doctor or dentist?** Yes

**Attitude:** Cooperative  
**Coordination:** Poor, Stumbling

**Speech:** Rapid, Nervous

**Eye:** Normal

**Corrective lens:** None

**Pupil size:** Equal

**Pulse and time:** 112/122 HR 2/108/123 P.M.

**HGN:** Lack of smooth pursuit  
**Maximum deviation:** Angle of onset

**Romberg Balance:** Walk and Turn test

**Draw lines to spots touched:**

**Blood pressure:** 122/76  
**Temperature:** 99.5°F

**Muscle tone:** Near normal  
**Rigidity:** Flaccid

**What medication or drug have you been using?** Nothing, I won't answer that.

**Time of use?** N/A  
**Where were the drugs used? (location)** Refused

**Date/Time of arrest:** 7/18/04  
**Time DFR notified:** 2:23

**ID #:** 516  
**Reviewed by:**

**Opinion of evaluator:** Rule Out  
**Alcohol:** Medical

**CNS Stimulant:**

**Habituation:**

**Dissociative Anesthetic:**

**Inhalant:**

**Narcotic Analgesic:**

**Cannabis:**

---

HS 172 1/07  
X-23
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Hedlund, James R.

1. LOCATION: The evaluation of James Hedlund was conducted at the Pulaski County Jail.

2. WITNESSES: Arresting Officer, TPC Jeff Hust, Arkansas State Police and Pam Mays of the Arkansas Criminal Justice Institute.

3. BREATH ALCOHOL TEST: Trooper Hust administered a breath test to Hedlund with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: The writer was contacted by Trooper Hust requesting a drug evaluation. Writer contacted Trooper Hust at the County Jail where it was determined that he had stopped the suspect for driving 100 mph and for driving without headlights on I-30 East. The suspect was excited, talkative and very restless. He performed poorly on the roadside SFST's and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room with Trooper Hust. The suspect was rocking back in forth in his chair and could not remain still. His speech was fast and his reflexes were quick and exaggerated.

6. MEDICAL PROBLEMS AND TREATMENT: None observed and none stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3" front to back and estimated 30 seconds in 15 seconds. Walk & Turn: Suspect started too soon, lost his balance during the instructions, raised his arms and made an abrupt swivel turn. One Leg Stand: Suspect swayed, raised his arms, hopped and put his foot down. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts.

8. CLINICAL INDICATORS: The suspect’s pulse, blood pressure and temperature were above the normal ranges. His pupils were dilated and reacted slowly to light.

9. SIGNS OF INGESTION: A white powder residue was located in the suspect’s nose.

10. SUSPECT’S STATEMENTS: The suspect denied using any drugs.

11. DRE’S OPINION: In my opinion Hedlund is under the influence of a CNS Stimulant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS:
DRUG INFLUENCE EVALUATION

Evaluator:
Sgt. Frank Barnes

DRB No.
1674

Rolling Log No.
04-10

Session X #2

Name:
Kohlhepp, Kim J

DOB:
8/14/73

Sex:
F

Case #: 04-22876

Arresting Officer:
OIC: David Steiner OKC PD

Date/Time of Arrest:
10/10/04 22:40

Time DRE Noted:
22:05

Time Committed:
10/10/04 22:10

Opinion of evator:
Rule Out

Blood pressure:
144/104

Muscle tone:
Near normal

Temperature:
99.5° F

Placced

Right

Comments:

I don’t use drugs anymore.

HIS 172 1/07

X-25
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Kohlhepp, Kim J.

1. LOCATION: The evaluation of Kim Kohlhepp was conducted in the booking room at the Oklahoma County Jail.

2. WITNESSES: The evaluation was witnessed by the arresting officer; Officer David Steiner and by Sergeant Charlie Phillips of the Oklahoma City P.D.

3. BREATH ALCOHOL TEST: Officer Steiner administered a breath test to Kohlhepp with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: The writer was contacted by Officer Steiner requesting a drug evaluation. After arriving at the County Jail, Officer Steiner reported that he had stopped the suspect for driving 65 mph in a 30 mph zone and for failing to stop at a traffic signal. The suspect was very talkative and restless. She was unable to perform the SFST's as directed and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room standing next to Officer Steiner. She was very fidgety and could not stand still. When told to sit down she would sit for a few seconds and then quickly get back up.

6. MEDICAL PROBLEMS AND TREATMENT: None observed and none stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 2” side to side and estimated 30 seconds in 12 seconds. Walk & Turn: Suspect stepped off the line, raised her arms for balance and turned using an abrupt swivel-like movement. One Leg Stand: Suspect swayed, raised her arms, hopped and put her foot down. Finger to Nose: Suspect missed the tip of her nose on each attempt and had eyelid and leg tremors.

8. CLINICAL INDICATORS: The suspect’s pulse, blood pressure and temperature were above the normal ranges. Her pupils were dilated in all three lighting conditions.

9. SIGNS OF INGESTION: The suspect’s nostrils were red and ulcerated.

10. SUSPECT’S STATEMENTS: She denied using drugs, stating “I don’t use drugs anymore.”

11. DRE’S OPINION: In my opinion Kohlhepp is under the influence of a CNS Stimulant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: There was an outstanding warrant for the suspect for failure to appear on a charge of possession of methamphetamine.
One Hour

SESSION XI

PRACTICE: EYE EXAMINATIONS
SESSION XI    PRACTICE: EYE EXAMINATIONS

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

- Conduct examinations of pupil size and reaction to light under both lighted and darkened room conditions.
- Describe the eye examination procedures.
- Document the results of the eye examinations.

Content Segments                  Learning Activities
A. Procedures For This Session    o  Instructor Led Presentations
B. Room Light Examinations       o  Students' Hands On Practice
C. Dark Room Examinations        o  Instructor Led Coaching
D. Session Wrap Up               o  Student Led Coaching
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>PRACTICE: EYE EXAMINATIONS</strong></td>
<td>Total Lesson Time: Approximately 60 Minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Display Session Title</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point out &quot;Practice Sessions&quot; wall chart.</td>
</tr>
<tr>
<td></td>
<td>XI-1 (Title)</td>
<td>Briefly review the objectives, content and activities of this session.</td>
</tr>
<tr>
<td></td>
<td>XI-2 (Objectives)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>A. Procedures For This Session</strong></td>
<td>Make team assignments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emphasize that students can help each other learn by pointing out errors of omission or commission.</td>
</tr>
<tr>
<td></td>
<td>1. Participants will work in three or four member teams.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. At any given time, one member of the team will be engaged in conducting and recording eye examinations of another member.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. The remaining member(s) will help coach and critique the student who is conducting the examinations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Participants will take turns serving as test administrator, test subject and coach.</td>
<td></td>
</tr>
</tbody>
</table>
### Aids Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3. Teams initially will practice under lighted room conditions.</td>
<td>Clarification: students will shine a pen light directly into the subject's eye. Demonstrate this, using a student subject.</td>
</tr>
<tr>
<td></td>
<td>a. Check pupil size under normal room light.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Check reaction to light and pupil size using a pen light in a lighted room.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Teams subsequently will practice under darkened room conditions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Check pupil size in near total darkness.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Check reaction to light and pupil size under direct light.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Students will record their estimations using Eye Examinations Data Sheet.</td>
<td>Point out the copies of the Eye Examination Data Sheet in the Student's Manual. Solicit students' questions concerning procedures for this practice session.</td>
</tr>
</tbody>
</table>

#### B. Room Light Examinations

<table>
<thead>
<tr>
<th>20 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pupil size estimation, under room light.</td>
</tr>
<tr>
<td>2. Pupil reaction and size estimation, under direct light.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Aids</td>
</tr>
<tr>
<td>------</td>
</tr>
</tbody>
</table>
|      |             | 1. Test administrator  
  2. Test subject  
  3. Coach  
  4. Test administrator  
   (continue cycle)  

Terminate this segment after 20 minutes, or after each student has twice served as a test administrator (whichever comes first). |

<table>
<thead>
<tr>
<th>C. Dark Room Examinations</th>
<th>Allow students approximately 90 seconds for their eyes to adapt to the darkened conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Minutes</td>
<td>Monitor teams and coach students as necessary and appropriate.</td>
</tr>
<tr>
<td></td>
<td>When the first student completes the two checks, have the team members exchange roles. Continue this process.</td>
</tr>
</tbody>
</table>
|                           | Sequence of roles should be as follows:  
  1. Test administrator  
  2. Test subject  
  3. Coach  
  4. Test administrator  
   (continue cycle)  

Terminate this segment after 25 minutes, or after each student has twice served as a test administrator (whichever comes first). |

<table>
<thead>
<tr>
<th>D. Session Wrap Up</th>
<th>Offer appropriate comments and observations about the students' performance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Minutes</td>
<td>Solicit students' comments concerning the practice session.</td>
</tr>
</tbody>
</table>
Session XI

Practice: Eye Examinations

Practice: Eye Examinations

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

- Conduct examinations of pupil size and reaction to light, under both lighted and darkened room conditions
- Describe the eye examination procedures
- Document the results of the eye examinations

QUESTIONS?
One Hour and Forty-Five Minutes

SESSION XII

ALCOHOL WORKSHOP
SESSION XII    ALCOHOL WORKSHOP

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

- Correctly administer the preliminary clinical examinations and psychophysical tests used in the drug influence evaluation procedure.
- Observe and record the subject's performance on the preliminary clinical examinations and psychophysical tests.
- Determine the level of impairment based on the results of the subject's preliminary clinical examinations and psychophysical tests.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Procedures</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Hands-On Practice</td>
<td>o Student Led Practice</td>
</tr>
<tr>
<td>C. Session Wrap Up</td>
<td>o Instructor Led Discussion</td>
</tr>
</tbody>
</table>
ALCOHOL WORKSHOP

Total Lesson Time:
Approximately 105 Minutes

Display Session Title

A. Procedures

1. Students will work in three or four member teams during this session.

2. Each team will administer a battery of tests to each volunteer.

   a. The preliminary clinical examinations and psychological tests include:

      o Pupil Size (Room Light)
      o Horizontal Gaze Nystagmus
      o Vertical Gaze Nystagmus
      o Lack of Convergence
      o Romberg
      o Walk and Turn
      o One Leg Stand (both legs)

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

Make team assignments.

Point out that for the DEC drug influence evaluation, it is helpful to estimate angle of onset for HGN, and to relate it to BAC.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
</table>
| o Finger to Nose  
o Pulse | b. Results/observations of all tests will be recorded on the standard Drug Evaluation Report Form. | Point out that copies of the report form are in the Student's Manual. Each team will need one report form for each volunteer. |
<p>| 3. For each volunteer, team members should perform the following duties: |  |  |
| a. One team member will administer the tests to the volunteer. |  |  |
| b. One team member will record the results on the report form. |  |  |
| c. The other team member(s) will assist the test administrator in observing the volunteer's performance on the tests. |  | Emphasize that team members will take turns performing the various duties, as they deal with the different volunteers. |
| 4. Some volunteers will have BACs above 0.10, others will have lower BACs. |  |  |
| 5. The following safety precautions will be strictly enforced: |  | Solicit students' questions concerning the procedures for the Alcohol Workshop. |
| a. No weapons will be present. |  |  |
| b. Volunteers will not be left unattended at any time. |  |  |</p>
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B. Hands On Practice</td>
<td>Monitor teams as they test the volunteers.</td>
</tr>
<tr>
<td></td>
<td>1. Test administration</td>
<td>Make sure that each student takes at least one turn as a test administrator.</td>
</tr>
<tr>
<td></td>
<td>2. Test recording</td>
<td>Coach students, as necessary, to improve their performance as test administrators.</td>
</tr>
<tr>
<td></td>
<td>75 Minutes</td>
<td>Terminate the hands on practice after 75 minutes, or after each team has tested 5 volunteers (whichever occurs first).</td>
</tr>
<tr>
<td></td>
<td>C. Session Wrap Up</td>
<td>Record teams' assessments of each volunteer's probable BAC status on the dry erase board or flip chart (see next page for a sample dry erase board array). If a dry erase board or flip-chart is not available, an overhead has been made.</td>
</tr>
<tr>
<td></td>
<td>20 Minutes</td>
<td>Ask each team briefly to describe the evidence that led the members to their conclusions about a particular volunteer's BAC.</td>
</tr>
<tr>
<td></td>
<td>1. Feedback of teams' assessments</td>
<td>Record each volunteer's actual BAC on the dry erase board array.</td>
</tr>
<tr>
<td></td>
<td>2. Feedback of volunteers' BACs.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3. Discussion</td>
<td>Make appropriate comments concerning teams' assessment of the volunteers' BACs. These comments should take into account such factors as absorption and elimination rates, differences in tolerance to alcohol, volunteers' medical conditions, etc.</td>
<td>Solicit students' comments or questions concerning the alcohol workshop.</td>
</tr>
</tbody>
</table>
SAMPLE DRY ERASE BOARD ARRAY FOR RECORDING TEAMS' ASSESSMENTS.

**TEAMS' ESTIMATES OF BAC**

<table>
<thead>
<tr>
<th>Volunteer</th>
<th>.05 or less</th>
<th>.06-.07</th>
<th>.08-.09</th>
<th>.10 - .11</th>
<th>.12 - .13</th>
<th>.14 - .15</th>
<th>.16 or more</th>
<th>Actual BAC</th>
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</table>

(TABLE ENTRIES REPRESENT TEAMS' "VOTES")
Session XII

Alcohol Workshop

Alcohol Workshop

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

- Correctly administer the preliminary clinical examinations and psychophysical tests used in the drug influence evaluation procedure
- Observe and record the subject's performance on the preliminary clinical examinations and psychophysical tests
- Determine the level of impairment based on the results of the subject's preliminary clinical examinations and psychophysical tests

Examinations and Tests Conducted

- Pupil Size (Room Light)
- Horizontal Gaze Nystagmus
- Vertical Gaze Nystagmus
- Lack of Convergence
- Romberg Balance
- Walk and Turn
- One Leg Stand (Both Legs)
- Finger to Nose
- Pulse

QUESTIONS?
Thirty Minutes

SESSION XIII

PHYSICIAN'S DESK REFERENCE (PDR)
AND OTHER REFERENCE SOURCES
SESSION XIII  PHYSICIAN'S DESK REFERENCE (PDR) AND OTHER REFERENCE SOURCES

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

- Explain how the various sections of the PDR can provide information that will:
  - Aid in the drug influence evaluation;
  - Aid in courtroom testimony.

- Use the PDR in a practical exercise when presented with color photographs of typical prescription drugs encountered in law enforcement contacts. The student will correctly identify and classify the drugs and list the signs and symptoms that can be caused by them and observed and documented during a drug influence evaluation.

- Describe other references available to assist DREs.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Physician's Desk Reference as a Resource</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Practical Exercise</td>
<td>o Small Group Exercise</td>
</tr>
<tr>
<td>C. Other Resource Material</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
</tr>
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</tr>
<tr>
<td></td>
<td>PHYSICIAN'S DESK REFERENCE (PDR)</td>
</tr>
<tr>
<td></td>
<td>10 Minutes</td>
</tr>
<tr>
<td>XIII-1</td>
<td>(Title)</td>
</tr>
<tr>
<td></td>
<td>A. Physician's Desk Reference as a Resource</td>
</tr>
<tr>
<td></td>
<td>1. PDR is published annually.</td>
</tr>
<tr>
<td></td>
<td>a. Many versions are published:</td>
</tr>
<tr>
<td></td>
<td>o PDR for prescription drugs</td>
</tr>
<tr>
<td></td>
<td>o PDR for non-prescription drugs</td>
</tr>
<tr>
<td></td>
<td>o PDR for ophthalmology</td>
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</tbody>
</table>
d. Product descriptions are prepared by the manufacturer, and edited and approved by their respective medical directors.

e. Additional information on the various drugs can be obtained from the manufacturer.

2. Sections of a PDR.

a. Manufacturers Index (Section 1)

b. Product Name Index and Discontinued Products (Section 2).

2. Sections of a PDR.

a. Manufacturers Index (Section 1)

b. Product Name Index and Discontinued Products (Section 2).

c. Product Category Index (Section 3).

d. Generic and Chemical Name Index (Section 4).

e. Product Identification Section (Section 5).

f. Product Information Section (Section 6).

Point out that the sections are color coded for easy use.

List of manufacturers (with phone numbers) who have provided prescribing information.

Alphabetical listing of products available and a listing of discontinued products.

Note: Newer editions of the PDR will have a merging of Sections 2 and 4.

Products listed according to appropriate category.

Products listed under generic and chemical name headings according to the principal ingredient(s).

Point out that this section contains actual size, full color reproductions.

Point out that this section describes composition, action, uses, administration, dosage, contraindications, precautions, side effects, the form in which supplied and other information concerning use.
Aids | Lesson Plan | Instructor Notes
--- | --- | ---
g. Diagnostic Product Information (Section 7) | It also includes common names, generic compositions or chemical names. | Diagnostic product descriptions.
h. Poison Control Centers | List of centers and emergency telephone numbers. | 
3. Use of PDR in DEC program | This information is contained in the product identification section. | 
a. To identify prescription drugs. | This information is contained in the product information section. | 
b. To identify the effects of prescription drugs for comparison with observed effects. |  
4. How to use the PDR. | Demonstrate how to identify a tablet, capsule, etc. using the product identification section. | 
a. Identification of an unknown product. |  
b. Identification of drug pharmacology. | Demonstrate how to use the product information section. | 
Example: Nembutal sodium capsules (pentobarbital sodium capsules) |  
5. Location and acquisition of agency's PDR(s). | Point out that PDRs can be obtained from physicians, hospitals, etc. It is not essential to have the current version for typical enforcement uses. |  
XIII-4 (Product Example) |  |  
B. Practical Exercise

1. Small group exercise
2. Group reports

Assign students to small groups and provide color slides or photographs of typical prescription drugs encountered during enforcement contacts.

Have the group identify the drugs and describe typical "actions" or symptoms that can be observed and documented during a drug influence evaluation.

Each group must have a PDR.

C. Other Resources

1. National Highway Traffic Safety Administration, Enforcement and Justice Services Division
2. State Drug Evaluation and Classification Program Coordinator.
3. "The DRE" Newsletter
4. The National Traffic Law Center (NTLC)
5. Local Poison Control Center
6. Medical Dictionaries
7. The Pill Book, The Drug Identification Bible, and other consumer’s guides to drugs

Published by the Phoenix City’s Prosecutor's Office, Phoenix, Arizona.

NTLC is part of the American Prosecutors Research Institute (APRI)
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Drugs and Human Performance Fact Sheets</td>
<td>Produced by U.S. DOT - NHTSA, Report No. DOT HS 809 725, March 2004</td>
</tr>
<tr>
<td>9.</td>
<td>Newspaper and magazine articles on drugs and drug impaired driving, including counter-culture magazines such as “High Times”.</td>
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<tr>
<td>10.</td>
<td>Software programs such as Pharmacists, Body Works, Mosbey’s Medical Dictionary and other programs are available on disks and CDs.</td>
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<tr>
<td>11.</td>
<td>Various resources are available through Online services and the Internet.</td>
<td><strong>Point out</strong> that the IACP Drug Evaluation and Classification Program website is <a href="http://www.decp.org">www.decp.org</a></td>
</tr>
<tr>
<td>12.</td>
<td>Other texts</td>
<td>Instructor: Discuss some other useful and reliable texts known to you.</td>
</tr>
</tbody>
</table>
Session XIII

Physician’s Desk Reference (PDR) and Other Reference Sources

Physician’s Desk Reference (PDR) and Other Reference Sources

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

- Explain how the various sections of the PDR can provide information that will:
  - aid in the drug influence evaluation
  - aid in courtroom testimony
- Use the PDR in a practical exercise when presented with color photographs of typical prescriptions drugs encountered in law enforcement contacts
- Learn about other resources available to assist DREs

Sections of a Physician’s Desk Reference

- Manufacturers’ index
- Product name index and discontinued products
- Product category index
- Generic and chemical name index
- Product identification section
- Product information section
- Diagnostic product information
- Poison control centers
- Guide to management of drug overdose

Product Information Section Example

Nembutal sodium capsules (pentobarbital sodium capsules)
- Description
- Clinical pharmacology
- Indications and usage
- Warnings
- Precautions
- Dosage and administration
- Drug abuse and dependence
- How supplied

Continuing Information Sources

- National Highway Traffic Safety Administration, Enforcement and Justice Services Division
- State DEC Program Coordinator
- DRE Newsletter
  Phoenix City Prosecutor’s Office
  455 North 5th Street
  Suite 400
  Phoenix, AZ 85004

Other Information Sources

- The National Traffic Law Center (NTLC)
  - www.ndaa-apri.org
- Local poison control center
- Medical dictionary
Other Information Sources
(Continued)

- The Pill Book
- Drug Information Handbook
- Drug Identification Bible
- Drugs and Human Performance Fact Sheets
- Various textbooks, newspaper and magazine articles

QUESTIONs?
One Hour and Forty-Five Minutes

SESSION XIV

HALUCINOGENS
SESSION XIV  HALLUCINOGENS

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

- Explain a brief history of the Hallucinogen category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe the typical time parameters, i.e. onset and duration of effects, associated with this category.
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs.
- Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overview of the Category</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects</td>
<td>o Review of Drug Evaluation and Classification Exemplars</td>
</tr>
<tr>
<td>C. Onset and Duration of Effects</td>
<td>o Reading Assignments</td>
</tr>
<tr>
<td>D. Overdose Signs and Symptoms</td>
<td>o Video Presentations (If Available)</td>
</tr>
<tr>
<td>E. Expected Results of the Evaluation</td>
<td>o Slide Presentations</td>
</tr>
</tbody>
</table>
### A. Overview of the Category

1. Hallucinogens are drugs that affect a person's perceptions, sensations, thinking, self awareness and emotions.

   a. The word "Hallucinogen" means something that causes hallucinations.

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

      o Seeing, hearing, smelling, tasting or feeling something that isn't really there.

      o Having distorted sensory perceptions, so that things look, sound, smell, etc. differently then they really are.

---

**HALLUCINOGENS**

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
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<td>Total Lesson Time: Approximately 105 Minutes</td>
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<td>Display Session Title</td>
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<td>Briefly review the objectives, content and activities of this session.</td>
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<td>20 Minutes</td>
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<tr>
<td>XIV-1 (Title)</td>
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<tr>
<td>XIV-2A&amp;B (Objectives)</td>
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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>XIV-3 (Synesthesia)</td>
<td>c. Hallucinogenic drugs usually produce what are called pseudo-hallucinations: i.e. the user typically is aware that what he or she is seeing, hearing, smelling, etc. isn't real, but is a product of the drug.</td>
<td>But emphasize that the fact that the user knows the hallucinations aren't real doesn't make those hallucinations any less dangerous if they occur while driving.</td>
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<td></td>
<td>d. One common type of hallucination produced by these drugs is called Synesthesia, which means a transposing of sensory modes.</td>
<td>Note: Synesthesia may occur naturally in an insignificant percentage of the population.</td>
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<tr>
<td></td>
<td>o Sounds for example, may be transposed into sights.</td>
<td>Examples: The user may &quot;see&quot; a flash of color, or some other sight, when the telephone rings. The user may &quot;smell&quot; a particular fragrance when he or she looks at something painted red.</td>
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<tr>
<td></td>
<td>o Sights may be transposed into odors.</td>
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<td></td>
<td>e. The illusions and distorted perceptions produced by hallucinogenic drugs may be very alarming, even terrifying.</td>
<td>Point out that the expression &quot;bad trip&quot; refers principally to these panic filled reactions to Hallucinogens.</td>
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<td>o They may produce panic and uncontrolled excitement.</td>
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<td>o The user may be unable to cope with the terror, and may attempt to flee wildly.</td>
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<td>o A user who is emotionally or mentally unstable may become psychotic in response to</td>
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<tr>
<td>Aids</td>
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<td>Instructor Notes</td>
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<tr>
<td>f.</td>
<td>A terrifying &quot;bad trip&quot; sometimes may be re-experienced as a <strong>flashback</strong>.</td>
<td>But point out that subsequent use of the drug may precipitate a flashback, by causing the user to re-experience the frightening illusions of the previous &quot;bad trip&quot;.</td>
</tr>
<tr>
<td>o</td>
<td>In simple terms, a flashback is a vivid recollection of a portion of an hallucinogenic experience.</td>
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<td>o</td>
<td>A flashback does <strong>not</strong> occur because of a residual quantity of drug in the user's body.</td>
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<tr>
<td>o</td>
<td>Instead, a flashback essentially is a very intense daydream.</td>
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<td>g.</td>
<td>There are three types of flashback:</td>
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<td>o</td>
<td>Emotional: Feelings of panic, fear, etc; the sensations of a &quot;bad trip&quot;.</td>
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<td>o</td>
<td>Somatic: Altered body sensations, tremors, weakness, dizziness, crawly, tingly feelings on the skin.</td>
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<tr>
<td>o</td>
<td>Perceptual: Distortions of vision, hearing, smell and/ or other senses.</td>
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<tr>
<td></td>
<td>These distortions are &quot;re-runs&quot; of the original &quot;trip&quot;.</td>
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</tbody>
</table>
h. Remember that hallucinogens produce illusions, delusions or both.

Example of an illusion: "I see an Elephant".

Example of a delusion: "I am an Elephant".

Write: "PSYCHOTOMIMETIC" on the dry erase board or flip-chart.

"Psychotomimetic" means "something that mimics psychosis". A psychosis is a major mental disorder. It implies a loss of touch with reality.

2. Some Hallucinogens come from natural sources, while others are synthetically manufactured.

a. Peyote and Psilocybin are examples of naturally occurring Hallucinogens.

Instructor, for your information: Other naturally occurring Hallucinogens include nutmeg; jimson weed; morning glory seeds; salvia divinorum; and, bufotenine, a substance found in the glands of certain toads.
**XIV-6B**

(Synthetic)

b. LSD, MDA, MDMA, DMT, STP, TMA and 2CB are examples of synthetically manufactured Hallucinogens.

c. MDMA is an abbreviation for 3,4-Methylenedioxymethamphetamine and is commonly referred to as “Ecstasy”. It is an hallucinogen that also acts as a stimulant. It produces and energizing effect, as well as distortions in time and perception and enhanced enjoyment from tactile experiences.

d. MDA is an abbreviation for 3,4-Methylenedioxymethylamphetamine. It is normally produced as a clear liquid, or as a white powder in capsule or tablet form.

3. Peyote is a small, spineless cactus.

   a. The active, hallucinogenic ingredient in peyote is mescaline.

   b. Peyote use by certain Indian tribes for religious rituals pre-dates Columbus' discovery of America by many centuries.

   If available, show slides of the peyote cactus and/or other peyote examples.

   Mescaline is a chemical relative of adrenalin. Effects may be similar to those that would result from a massive rush of adrenalin.

Note: Some regional or local Hallucinogens may be discussed in more detail.

LSD: Lysergic Acid Diethylamide

Point out that STP is also known as DOM (Dimethoxyamphetamine). STP is an abbreviation for “Serenity, Tranquility and Peace”.

TMA: Trimethoxyamphetamine

DMT: Dimethyltryptamine

Instructor, for your information: Drugs such as MDA, MDMA, STP and TMA all contain amphetamine based compounds. They are for this reason sometimes called "psychedelic amphetamines".

In essence, they are high powered CNS Stimulants that cause hallucinations.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>c. Peyote is used legally in religious ceremonies of the Native American Church.</td>
<td>Mescaline was first isolated from Peyote in 1856. It was named after the Mescalero Apaches. Persons who are not American Indians cannot be members of the Native American Church.</td>
<td></td>
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<tr>
<td>4. Psilocybin is a drug found in a number of different species of mushrooms of the genus Psilocybe.</td>
<td>There are over 100 known species of mushrooms that contain psilocybin and psilocin. Source: Drug Identification Bible, 2004/2005 Edition</td>
<td>If available, show slides of Psilocybin Mushrooms.</td>
</tr>
<tr>
<td>a. These mushrooms also have been used in Indian religious ceremonies for thousands of years.</td>
<td>Psilocybin is chemically very similar to serotonin, a neurotransmitter that is found in the brain. The effects of Psilocybin may be similar to what would happen if the brain were suddenly flooded with Serotonin.</td>
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<tr>
<td>b. An unstable derivative of Psilocybin, called Psilocin, is also found in these mushrooms and also has hallucinogenic properties.</td>
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<tr>
<td>5. LSD is perhaps the most famous of the synthetically manufactured Hallucinogens.</td>
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<tr>
<td>a. &quot;LSD&quot; is an abbreviation of Lysergic Acid Diethylamide.</td>
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<tr>
<td>b. It was first produced in 1938, although its hallucinogenic properties were not discovered until 1943.</td>
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<tr>
<td>c. LSD was used in psychotherapy during the 1940's and early '50's.</td>
<td>Example: It was occasionally used in the treatment of alcoholism.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<td></td>
<td>d. Although LSD is a synthetic drug, it was first derived from Ergot, a fungus that grows on rye and other grains.</td>
<td>If available, show slides of various forms of LSD. Write &quot;LSD derived from Ergot, a fungus&quot; on the dry erase board or flip-chart.</td>
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<td></td>
<td>e. In the Middle Ages, when people accidentally ate this fungus, their resulting bizarre behavior was thought to stem from possession by the Devil.</td>
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<tr>
<td></td>
<td>f. The trials and subsequent burning of “witches” in Salem, Massachusetts in 1692 probably was due to accidental Ergot consumption by those women.</td>
<td>Sandoz Laboratories markets a combination of caffeine and Ergot called Cafergot.</td>
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<tr>
<td></td>
<td>g. Ergot is still used medically to treat migraine headaches.</td>
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<tr>
<td>6.</td>
<td>2CB (4-Bromo-2, 5-dimethoxyphenethylamine) is a popular drug first synthesized in 1974.</td>
<td>Note: “Entactogen” is a term used by psychiatrists to classify Ecstasy (MDMA). It literally means “touching within”.</td>
</tr>
<tr>
<td></td>
<td>a. 2CB is considered both a psychedelic and an entactogen.</td>
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<td></td>
<td>b. 2CB is a white powder usually found in pressed tablets or gel caps.</td>
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<td></td>
<td>c. 2CB is sometimes referred to as “Venus”, “Nexus”, and “bromo-mescaline”.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>7. MDA, STP and TMA are synthetically manufactured Hallucinogens that sometimes are called &quot;Psychedelic Amphetamines&quot;.</td>
<td>a. They are chemically related to Amphetamines and produce many effects similar to those of CNS Stimulants.</td>
<td><strong>Point out</strong> the ironic fact that drugs popularly associated with soothing concepts like &quot;mellowness and tranquility&quot; actually often produce the extreme panic of a &quot;bad trip&quot;.</td>
</tr>
<tr>
<td></td>
<td>b. They are also chemically related to Mescaline.</td>
<td><strong>Point out</strong> that there are additional Hallucinogens beyond those listed on Visual XIV-3.</td>
</tr>
<tr>
<td></td>
<td>c. MDA is an abbreviation for 3, 4-Methylenedioxymphetamine</td>
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<td></td>
<td>d. Among users, MDA sometimes is referred to as the &quot;Mellow Drug of America&quot;.</td>
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<td></td>
<td>e. STP is also called DOM, an abbreviation of 2 Methyl-2,5 Dimethoxylamphetamine.</td>
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<tr>
<td></td>
<td>f. Users have popularized the abbreviation STP, representing &quot;Serenity, Tranquility and Peace&quot;.</td>
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<td></td>
<td>g. TMA is an abbreviation for 3,4,5-Trimethoxyamphetamine.</td>
<td>But point out that many people repeatedly abuse these non-addictive drugs because they enjoy the hallucinogenic effects they produce.</td>
</tr>
<tr>
<td>7. An important fact about Hallucinogens is that they are not addictive, in the sense that cessation of use does not produce withdrawal signs or symptoms; however, regular users do develop tolerance to these drugs.</td>
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<tr>
<td><strong>Aids</strong></td>
<td><strong>Lesson Plan</strong></td>
<td><strong>Instructor Notes</strong></td>
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<tr>
<td>8. Methods of ingestion of Hallucinogens.</td>
<td>a. The most common method of ingesting Hallucinogens is orally.</td>
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<td></td>
<td>o LSD is placed on bits of paper, gelatin squares, or sugar cubes and eaten.</td>
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<tr>
<td></td>
<td>o The small &quot;buttons&quot; or crowns of the Peyote Cactus are dried and eaten, or may be brewed into a beverage for drinking.</td>
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</tr>
<tr>
<td></td>
<td>o Similarly, the Psilocybin Mushrooms are dried and eaten, or may be brewed into a beverage for drinking.</td>
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<td></td>
<td>b. Some Hallucinogens can also be smoked (example: LSD impregnated on Marijuana or tobacco cigarettes).</td>
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<tr>
<td></td>
<td>c. Some users inject LSD.</td>
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<tr>
<td></td>
<td>d. MDA can also be insufflated, or &quot;snorted&quot;.</td>
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</tbody>
</table>

Point out that some Hallucinogens such as LSD can be absorbed through the skin. Officers should make it a practice to wear latex gloves when handling any suspected drugs.

Solicit students' comments or questions on this overview of Hallucinogens.
B. Possible Effects

1. The effects of Hallucinogens vary widely, and are affected by the user's personality, mood and expectations, and by the surroundings in which the drug is taken.
   
   a. Generally, Hallucinogens intensify whatever mood the user is in at the time the drug is taken.
      
      o If the user is depressed, the drug will deepen the depression.
      
      o If the user is feeling pleasant, the drug will heighten that feeling.
   
   b. If the user expects that the drug will help him or her achieve new insights or an expanded consciousness, the "trip" will seem to have that effect.

2. However, Hallucinogens also often uncover mental or emotional flaws that the user was unaware of possessing.

3. Therefore, many users who expect a positive experience with the drug will encounter instead the panic of a "bad trip".

4. The most common effect of the Hallucinogen is hallucination: the distorted perception of
reality, often with a mixing of senses that makes it virtually impossible for the drug influenced user to function in the real world.

C. Onset and Duration of Effects

1. The time parameters associated with Hallucinogens vary from drug to drug.

2. The effects of Peyote (Mescaleline) begin to be felt within approximately one-half hour after eating the cactus "buttons".

   a. **30 minutes**: nausea, possibly leading to vomiting; mild rise in blood pressure, pulse, temperature and heart rate; pupils dilate.

   b. **One hour**: sensory changes begin; visual distortions accompanied by rich colors; objects take on new forms and begin to move; shapes "come alive".

   c. **3-4 hours**: sensory changes reach their peak; synesthesia (mixing of senses) commonly occurs.

   d. **10 hours**: gradual decline in effects.

   e. **12 hours**: nearly total recovery from effects.

Solicit students' comments or questions on this overview of Hallucinogens.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f. <strong>24 hours</strong>: approximately 87% of the Mescaline has been excreted from the body.</td>
<td></td>
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<tr>
<td></td>
<td>3. Psilocybin also begins to exert its effects within one-half hour.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. <strong>1-30 minutes</strong>: dizziness, light headed feeling, giddiness; the extremities (hands, feet, etc.) may feel very light or very heavy.</td>
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<tr>
<td></td>
<td>b. <strong>30-60 minutes</strong>: vision blurs; colors become brighter, leave longer lasting after images; objects take on sharp visual definition; hearing becomes more acute.</td>
<td></td>
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<tr>
<td></td>
<td>c. <strong>60-90 minutes</strong>: color patterns and shapes start to develop; the surfaces of objects appear to develop waves and wave-like patterns; distance perception becomes impaired; feelings of euphoria develop.</td>
<td></td>
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<tr>
<td></td>
<td>d. <strong>90-100 minutes</strong>: body sensations increase, along with mental perceptions; user commonly becomes introspective.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. <strong>120-180 minutes</strong>: effects start to diminish.</td>
<td></td>
</tr>
</tbody>
</table>
4. LSD’s effects begin to be felt within 30-45 minutes.
   a. 30-45 minutes: blood pressure, pulse and temperature rise; pupils dilate; hair starts to stand on end (Piloerection); nausea, dizziness and headache develop.
   b. 4-6 hours: effects reach their peak.
   c. 7-9 hours: effects diminish.
   d. 10-12 hours: user feels normal.

5. MDMA’s effects usually begin within several minutes to a half hour if taken orally.
   a. Psychological effects include confusion, depression, anxiety and paranoia.
   b. The duration effects can last from 1-12 hours depending on dosage.

6. 2CB’s effects are dose related.
   a. Lower doses (5-15 mg) produces enhanced sensual sensations and feelings of being “in one’s body”.
   b. At higher doses (15-30 mg) it produces intense visual effects that includes moving objects with “trails” behind them and colors appearing from nowhere.
### Aids Lesson Plan Instructor Notes

#### 7. Onset and duration of effects of other Hallucinogens vary widely from about two hours to about 24 hours.

**5 Minutes**

#### D. Overdose Signs and Symptoms

1. Death from overdose of LSD or Mescaline is not common.
   
a. It is unlikely that other Hallucinogens would directly result in death from overdoses.
   
b. However, an overdose can be extremely dangerous and indirectly result in death.
      
      - The extreme panic and agitation of a "bad trip" have been known to result in suicide, or in accidental death as the user attempts to flee the hallucinations.
      
      - Sometimes Hallucinogens induce a perception of invulnerability in the user, leading to bizarre and very dangerous behavior, and death.

2. The most common danger of an overdose of Hallucinogen is an intense "bad trip", which can result in severe and sometimes permanent psychosis.

**Example:** At least one LSD user was killed when he attempted to stop a train. Others have died from jumping off buildings believing they can fly.
### Lesson Plan

3. Some evidence also suggests that prolonged use of LSD may produce organic brain damage, leading to impaired memory, reduced attention span, mental confusion and impaired ability to deal with abstract concepts.

### Instructor Notes

Solicit students' comments and questions concerning time factors.

### E. Expected Results of the Evaluation

<table>
<thead>
<tr>
<th>Aids</th>
<th>60 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV-10A (Evaluation Results)</td>
<td></td>
</tr>
</tbody>
</table>

1. Observable evidence of impairment.

- Neither Horizontal nor Vertical Gaze Nystagmus will be present.
- Lack of Convergence will not be evident.
- Performance on the Romberg balance test will be impaired, particularly in the subject's estimation of the passage of 30 seconds.
- Performance on the Walk and Turn, One Leg Stand and Finger to Nose tests will be markedly impaired due to the subject's severe visual distortion, impaired perception of distance and decreased muscle coordination.

Point out that some subjects under the influence of Hallucinogens may not be able to understand or complete the tests, especially if the subject is hallucinating.

Emphasize that DRE officers conducting evaluations on subjects under the influence of hallucinogens should be especially careful due to the bizarre and unpredictable behavior of these subjects.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Vital Signs</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>o pulse generally will be up.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o blood pressure generally will be elevated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o body temperature generally will be up.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o pupils generally will be dilated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Reaction to light will usually be normal.</td>
<td>XIV-10D</td>
</tr>
<tr>
<td></td>
<td>Certain Psychedelic Amphetamines usually will slow the pupils' reaction to light</td>
<td>(Darkroom)</td>
</tr>
<tr>
<td>b. General indicators</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>o body tremors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o dazed appearance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o difficulty with speech</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o disoriented</td>
<td></td>
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<tr>
<td></td>
<td>o flashbacks</td>
<td></td>
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<tr>
<td></td>
<td>o hallucinations</td>
<td></td>
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<tr>
<td></td>
<td>o memory loss</td>
<td></td>
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<tr>
<td></td>
<td>o nausea</td>
<td></td>
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<tr>
<td></td>
<td>o paranoia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o perspiring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o poor perception of time and distance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o rigid muscle tone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o synesthesia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o uncoordinated</td>
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</tr>
</tbody>
</table>
### Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Summary</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td><strong>4. Demonstrations</strong></td>
<td></td>
<td>Show video of subject(s) under the influence of Hallucinogens. Relate behavior and observations to the Symptomology Chart.</td>
</tr>
<tr>
<td>a. Video demonstrations (if available)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Drug Evaluations and Classification exemplar demonstrations</td>
<td>Refer students to the exemplars found at the end of Section XIV of their student manuals. Relate the items noted on the exemplars to the Symptomology Chart. Solicit students' questions or comments concerning expected results of the evaluation of subjects under the influence of Hallucinogens.</td>
<td></td>
</tr>
</tbody>
</table>

**XIV-11**
(Symptomatology Chart)
Topics for Study

1. What does "synesthesia" mean?

A sensory perception disorder, in which an input via one sense is perceived by the brain as another sense. “Hearing” a phone ring and “seeing” the sound as a flash of light. Synesthesia sometimes occurs with persons under the influence of Hallucinogens.

2. What is a "flashback"? What are the three types of "flashback"?

A flashback is a vivid recollection of a portion of an hallucinogenic experience. Essentially, it is a very intense daydream. There are three types: (1) emotional - feelings of panic, fear, etc.; (2) Somatic - altered body sensations, tremors, dizziness, etc.; (3) Perceptual - distortions of vision, hearing, smell, etc.

3. Name two naturally occurring Hallucinogens.

Peyote, Psilocybin, Nutmeg, Jimson Weed, Morning Glory seeds, Bufotenine

4. What is a "bad trip"?

An hallucination where the user becomes panic-stricken by what he/she is seeing or hearing, and may become uncontrollably excited, or even try to flee from the terror.

5. What does "psychotomimetic" mean?

Literally “mimicking psychosis,” or “impersonating insanity.” A drug is considered psychotomimetic if persons who are under the influence of the drug look and act insane while they are under the influence of that drug.

6. What is an "illusion"? What is a "delusion"?

An “illusion” is a false perception, i.e. a misrepresentation of what the senses are receiving. A “delusion” is a false belief.

7. What is the difference between "hallucinations" and "pseudo-hallucinations"?

The difference is that the user typically knows that what he/she is seeing, hearing, smelling, etc. is not real, but is a product of the drug with a “pseudo-hallucination.”
8. What is "piloerection"?

Literally, “hair standing up,” or goose bumps. This condition of the skin is often observed in persons who are under the influence of LSD.
Session XIV

Hallucinogens

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

- Explain a brief history of the Hallucinogen category of drugs
- Identify common drug names and terms associated with this category
- Identify common methods of administration for this category
- Describe the symptoms, observable signs and other effects associated with this category

Hallucinogens
(Continued)

- Describe the typical time parameters, i.e. on-set and duration of effects associated with this category

- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs

- Correctly answer the “topics for study” questions at the end of this session

Synesthesia:

A transposition of senses

- “Seeing sounds”
- “Hearing colors”

“Flashback”

A vivid recollection of a hallucinogenic experience

Types of Flashbacks

- Emotional
  Most dangerous, feelings of panic, fear, etc., sensation of “bad trip”

- Somatic
  Altered bodily sensations, tremors, weakness, dizziness, crawly, tingly feeling on the skin

- Perceptual
  Distortions of vision, hearing, smell, taste and touch (associated with original “trip” least harmful, unless driving a motor vehicle)
Illusion:
A false perception

Delusion:
A false belief

Common Hallucinogens
(Continued)
- Synthetically manufactured
  - LSD (Lysergic Acid Diethylamide)
  - MDMA "Ecstasy"
    (3, 4 Methylendioxymphetamine)
  - MDA (3,4-Methylendioxymphetamine)
  - 2CB (4 bromo-2, 5- dimethoxyphenethamine)

Time Factors of Peyote
- 30 minutes: Onset
  Nausea, elevated blood pressure, pulse and temperature and dilated pupils
- 60 minutes: Development of hallucinogenic effects
  Visual distortions, rich colors, changing forms and moving shapes
- 3-4 hours: Peak effects
  "Synesthesia"

Time Factors of Psilocybin
- 1-30 minutes – Onset:
  Dizziness; giddiness; lightness or heaviness of extremities
- 30-60 minutes - Beginning of sensory effects:
  Blurred vision; sharpness of color; increased acuity of hearing
**Time Factors of Psilocybin**

- 60-90 minutes: Sensory effects intensify; patterns and shapes develop and move; distance perception is impaired; euphoria develops
- 90-180 minutes: Peak effects reach subjective
- 120-180 minutes: Effects begin to diminish

**Time Factors of LSD**

- 30 - 45 minutes: Onset
- 4 - 6 hours: Peak effects
- 7 - 9 hours: Effects diminish
- 10 - 12 hours: Subject feels normal

**Evaluation of Subjects Under the Influence of Hallucinogens**

- HGN and VGN - None
- Lack of Convergence - No
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose

**Evaluation of Subjects Under the Influence of Hallucinogens**

- Vital Signs:
  - Blood pressure - up
  - Pulse - up
  - Body temperature - up

**Evaluation of Subjects Under the Influence of Hallucinogens**

- Dark Room Examinations:
  - Pupils - dilated (Mydriasis)
  - Reaction to light - normal

*Certain psychedelic amphetamines may cause slowing

**Evaluation of Subjects Under the Influence of Hallucinogens**

- General Indicators:
  - Body tremors
  - Dazed appearance
  - Difficulty with speech
  - Disoriented
  - Flashbacks
  - Hallucinations
  - Nausea
  - Paranoia
  - Perspiring
  - Poor Perception of time
  - Rigid muscle tone
  - Synesthesia
  - Uncoordinated movements
# Hallucinogen Symptomatology Chart

<table>
<thead>
<tr>
<th>Condition</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGN</td>
<td>None</td>
</tr>
<tr>
<td>VGN</td>
<td>None</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td>None</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Dilated (mydriasis)</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Normal*</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up</td>
</tr>
<tr>
<td>Temperature</td>
<td>Up</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Normal/Rigid</td>
</tr>
</tbody>
</table>

* Certain psychedelic amphetamines may cause slowing
DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Kyle Clark, Naples PD

Recorded/Witness: Cpl. Allan Kolak, C.C.P.D

Date: 04/10/04, 2230 hrs, Naples, FL

DOB: 11/18/82

Sex: F

Race: W

Arresting Officer (Name, ID No.): Dpty. Darrel Kehne, Collier Co.

Suspect's Name (Last, First MD): Warburton, Cindy T.

What have you eaten today? Spaghetti

When? Lunch

What have you been drinking? Nothing

Time of last drink? N/A

Are you feel good? Yes

Why? I feel normal.

Are you under the care of a doctor or dentist? No

Date of last medical checkup: Not applicable

Are you taking any medication or drugs? Yes

Medication: Pain killer (over the counter)

Are you diabetic or epileptic? No

Are you taking any medication or drugs? Yes

Medication: Pain killer (over the counter)

Do you have any physical defects? No

Attitude: Distracted, Paranoid

Coordination: Poor, Staggering

Speech: Rambling, incoherent at times

Eyes: Normal

Blindness: None

Tracking: Equal

Pupil size: Equal

Corrective lens: None

Contacts if so: No

Hard: No

Soft: No

Dilation: None

Pupil size: Equal

Corrective lens: None

Contacts if so: No

Hard: No

Soft: No

Dilation: None

Blood pressure: 110/70

Temperature: 99.8°F

Pupil: Right 6.0

Left 6.0

Hips: Yes

Knees: Yes

Ankle: Yes

Rebound: Yes

Room Light: Direct

Darkness: Direct

Direct: Right

Left

Hips: Yes

Knees: Yes

Ankle: Yes

Rebound: Yes

Reaction to Light: Normal

RIGHT ARM

LEFT ARM

No Visible Marks

Date & Time of Arrest: 04/10/04, 2230 hrs.

Time DRE Notified: 2230 hrs.

Evaluation Start Time: 2250 hrs.

Time Completed: 2250 hrs.

DRE: 7401

Opinion of evaluator: No

Rule Out

Alcohol

Medical

CNS Stimulant

Hallucinogen

Narcotic Analgesic

Inhalant

Case #: 04-DRD-0123

Time now?: 7 pm

When did you last sleep?: Yesterday at 6 hrs.

How long?: Feel normal.

Are you sick or injured?: No

Are you diabetic or epileptic?: No

Are you under the care of a doctor or dentist?: No

Do you take insulin?: No

Do you have any physical defects?: No

Are you taking any medication or drugs?: Yes

Medication: Pain killer (over the counter)

Are you diabetic or epileptic?: No

Are you under the care of a doctor or dentist?: No

Date of last medical checkup: Not applicable

Are you taking any medication or drugs?: Yes

Medication: Pain killer (over the counter)

Do you have any physical defects?: No

Attitude: Distracted, Paranoid

Coordination: Poor, Staggering

Speech: Rambling, incoherent at times

Eyes: Normal

Blindness: None

Tracking: Equal

Pupil size: Equal

Corrective lens: None

Contacts if so: No

Hard: No

Soft: No

Dilation: None

Blood pressure: 110/70

Temperature: 99.8°F

Pupil: Right 6.0

Left 6.0

Hips: Yes

Knees: Yes

Ankle: Yes

Rebound: Yes

Reaction to Light: Normal
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Warburton, Cindy T.

1. LOCATION: The evaluation was conducted at the Naples Jail Center.

2. WITNESSES: Cpl. Allan Kolak of the Cape Coral Police Department witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Deputy Darrel Kehne of the Collier County S.O. administered a breath test to Warburton with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: The writer was on-duty when informed by dispatch that Deputy Kehne was requesting a drug evaluation. Writer contacted Deputy Kehne at the Jail Center where he advised the suspect had been arrested after driving along the gravel shoulder of Beach Road passing other vehicles. According to Deputy Kehne, the suspect pointed to his baton and shouted “Look out, there’s a big snake hanging from your belt!” She was very paranoid acting and also claimed that the overhead lights on the police cruiser were bleeding into her eyes and skin.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect sitting in the interview room. She appeared paranoid and disoriented. At one point she pointed to the clock on the wall and shouted, “Keep that off me, keep it away me!”

6. MEDICAL PROBLEMS AND TREATMENT: None observed and none stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” side to side and estimated 30 seconds in 10 seconds. Walk & Turn: Suspect started walking too soon, lost her balance during the instructions, missed heel to toe, stopped walking, stepped off the line, raised her arms, staggered while turning and only took eight steps on the return. One Leg Stand: Suspect swayed, raised her arms, hopped and put her foot down. Finger to Nose: Suspect missed the tip of her nose on each attempt. She also opened her eyes and shouted, “I can’t feel my face!” “My face is missing!”

8. CLINICAL INDICATORS: The suspect’s pulse, blood pressure and temperature were above the normal ranges. The suspect’s pupils were dilated.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT’S STATEMENTS: The suspect stated that she felt hot and denied drug use.

11. DRE’S OPINION: In my opinion Warburton is under the influence of a Hallucinogen and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: The suspect was wearing an “XTC” tee-shirt.
# Drug Influence Evaluation

**Evaluator:** Ote, David Rencher, PA  
**DRE No.:** 5-58  
**Rolling Log No.:** 2004-07  
**Session XIV #3**

**Date Examined/Time/Location:** 05/19/05, 01:45 Central Time  
**Suspect:** New P.  
**Breath Results:** Refused  
**Chemical Test:** Refused  
**Time of Arrest:** 1901  
**Time of Last Drink:** 0900  
**Last Meal:** Breakfast  
**Do you take insulin?** No  
**Do you have any physical defects?** No  
**Are you under the care of a doctor or dentist?** No  

### Attitude:
- Wiry/Bright  
- Cooperative  
- Very Poor - Staggering

### Speech:
- Difficulty in Speaking
- Rambling

### Corrective lens:
- None

### Pulse and Time:
- 1. 115/64  
- 2. 113/104  
- 3. 103/100

### Walk and Turn Test:
- Stoped  
- The white line resembled a lazy snake

### Describe Turn:
- N/A  

### Draw lines to spots touched:
- [Diagram showing lines drawn to numbers 1, 2, 3, 4, 5]

### Blood Pressure:
- [Diagram showing blood pressure]

### Muscles Test:
- [Diagram showing muscle test positions]

### Opinion of evaluator:
- Rule Out
- Alcohol
- CNS Depressant
- Hallucinogen
- Dissociative Anesthetic
- Narcotic Analgesic
- Cannabis

---

**Date/Time of Arrest:** 05/19/05  
**Time DRD Notified:** 0100  
**Evaluation Start Time:** 0110  
**Time Completed:** 0120  

---

**ID #:** 4183  
**Reviewed by:** A. Narrell  
**Signature:** [Signature]

---

**Drug Influence Test:**
- Sways while balancing
- Uses arms to balance
- Hopping

---

**Right Arm:**
- Normal
- No Mark

---

**Left Arm:**
- Normal
- No Mark

---

**Where was the drug used?** (Location):
- [Location]
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Buchanan, Lew B.

1. LOCATION: The evaluation of Lew Buchanan was conducted in the Central Testing Room at the Tucson Police Department.

2. WITNESSES: The evaluation was witnessed by the arresting officer; Officer Terry McCarthy of the Tucson Police Department and by Bob Hohn, NHTSA.

3. BREATH ALCOHOL TEST: Officer McCarthy administered a breath test to Buchanan with a 0.05% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: The writer was dispatched to Central Testing to conduct a drug evaluation for Officer McCarthy. Officer McCarthy stated that he had observed the suspect driving 20 miles under the posted speed limit on E. Broadway. He also observed the suspect’s vehicle drifting from lane to lane. The suspect preformed poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the breath testing room. He was swaying slightly as he stood and appeared dazed and disoriented. He responded slowly to my greeting, but was generally cooperative and responsive to my questions. He was perspiring heavily and had rambling speech.

6. MEDICAL PROBLEMS AND TREATMENT: Suspect stated he felt nauseous.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” in a circular motion and estimated 30 seconds in 35 seconds. Walk & Turn and One Leg Stand: Suspect was unable to perform the tests. Both were terminated for safety reasons. Finger to Nose: Suspect missed the tip of his nose on each attempt.

8. CLINICAL INDICATORS: Suspect exhibited a lack of smooth pursuit, a lack of convergence and had dilated pupils in all three lighting conditions. The suspect’s pulse, blood pressure and temperature were above the normal ranges.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT’S STATEMENTS: The suspect admitted drinking “a couple of beers” but denied any other drug use.

11. DRE’S OPINION: In my opinion Buchanan is under the influence of Alcohol and a Hallucinogen and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS:
DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Barry Dijson, Chaves Co. 8744
DRE No: 8744
Rolling Log No: 05-260
Session XIV #1

Date: 7/28/05

Huckle, Rebecca S. 26, 5'6" 125 lbs, M
DOB: 7/23-62
Race: F

Arresting Officer: Tpr. Michael Champion, NMB

Chemical Test: Refused
Time: 1830 hrs

Test Time: 6:10 pm - Last Night 6:10 hrs

Condition: Very poor, barely stand

Rapid, stuttering

Face: Flushed

Convergence

Test stopped

N/A

Cant do test (explain) Test stopped for safety reasons

Motor:

6.0

0

Nil

Pupil Size

Room Light

Darkness

Direct

Left

Right

Hirpin: Yes No

Rebound Dilation

Reaction to Light: Normal

Nasal area: Clear

Type of footwear: Moccasins

Blood pressure: 148/104

Temperature: 98.6 F

Muscle tone: Near normal

Rigidity in arms

Rigidity in arms

What medication or drug have you been using? How much?

"My medium doesn't permit drugs."

N/A

Time of use? N/A

Opinion of evaluator:

Rule Out

Medical

Alcohol

CNS Depressant

Haltucinogens

Narcotic Analgesic

Inhalant

Dislocating Anesthetic

CNS Stimulant

N/A

Where were the drugs used? (location)

N/A

Time Completed: 2:15 hrs.

ID No.:

Reviewed by:

Tpr. Michael Champion, NMB
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Hoeckle, Rebecca S.

1. LOCATION: The evaluation of Rebecca Hoeckle took place at the Chaves County Jail.

2. WITNESSES: The arresting officer, Trooper Michael Champion of New Mexico State Police witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: Trooper Champion administered a breath test to Hoeckle with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by Trooper Champion and requested to conduct a drug evaluation on Hoeckle. Writer contacted Trooper Champion at the jail where he advised that he had found the suspect stopped at a green light in downtown Roswell. When contacted, the suspect appeared dazed and disoriented. She pointed to the traffic light and told Trooper Champion that “God is light and the light is God.” She was unable to perform the roadside SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: The suspect was seated next to Intoxilyzer and was staring straight ahead. She slowly turned and asked “Are you God?” Writer replied by giving her my name and asking for consent to conduct a drug evaluation on her. She replied, “The gods sent you therefore you must be good.” Her speech was rapid and she stuttered slightly.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect indicated that she had an upset stomach and was not feeling good.

7. PSYCHOPHYSICAL TESTS: The suspect was unable to stand without assistance. It was necessary to terminate the Romberg Balance, Walk and Turn and One Leg Stand tests for her safety. The Finger to Nose test was conducted while she was seated. She missed the tip of her nose on all six attempts.

8. CLINICAL INDICATORS: The suspect’s pupils were dilated in all three lighting conditions. Her pulse, blood pressure and temperature were above the normal ranges.

9. SIGNS OF INGESTION: The suspect’s breath was sour smelling and was rancid.

10. SUSPECT’S STATEMENTS: The suspect stated she was fasting for religious reasons and that her medium forbids the use of alcohol and drugs. She further stated that her religious leader is a man “whose body is of fire and air and whose spirit is of light.” She also indicated that she had just attended a service conducted by the medium.

11. DRE’S OPINION: In my opinion Hoeckle is under the influence of a Hallucinogen and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.

13. MISCELLANEOUS:
SESSION XV

PRACTICE: TEST INTERPRETATION
SESSION XV PRACTICE: TEST INTERPRETATION

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

- Analyze the results of a complete drug influence evaluation and identify the category or categories of drugs affecting the individual examined.
- Articulate the basis for the drug category identification.

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<td>PRACTICE: TEST INTERPRETATION</td>
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<td>A. Interpretation Demonstrations</td>
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<td>1. Case #1: &quot;Subject Adams&quot;</td>
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<td>a. Preliminary examination.</td>
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<td>Ask students to discuss the category or categories of drugs that would cause these eye examination results.</td>
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<td>c. Psychophysical tests.</td>
<td>Review the results of the Psychophysical Tests of Subject Adams.</td>
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<td>Review the results of the Dark Room Examinations of Subject Adams.</td>
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<td>f. Other evidence and additional observations.</td>
<td>Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Adams.</td>
</tr>
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<td>g. Narrative report.</td>
<td>Briefly review the narrative report on the reverse side of the &quot;Adams&quot; exemplar. Point out that the DRE's opinion is missing from this sample report.</td>
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### Aids Lesson Plan

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#### Instructor Notes

- Ask students to comment on the category or categories of drugs that would be consistent with all of the evidence on this exemplar.
- Point out that the evidence indicates that Subject Adams is under the influence of CNS Depressants.
- Solicit students' questions concerning this demonstration.

2. **Case #2: "Subject Baker".**

   a. **Preliminary examination.**

   - Review the results of the Preliminary Examination of Subject Baker.
   - **Ask** students: "What category or categories of drugs would produce preliminary examination results consistent with this exemplar?" Probe to draw out the bases for students' responses.

   b. **Eye examinations.**

   - Review the results of the Eye Examinations of Subject Baker.
   - **Ask** students to discuss the category or categories of drugs that would cause these eye examination results.

   c. **Psychophysical tests.**

   - Review the results of the Psychophysical Tests of Subject Baker.
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<td>Ask students to discuss the category or categories of drugs that would produce these psychophysical test results.</td>
</tr>
<tr>
<td>d.</td>
<td>Vital signs examinations.</td>
<td>Review the results of the Vital Signs Examinations of Subject Baker. Ask students to discuss the category or categories of drugs that would produce these results.</td>
</tr>
<tr>
<td>e.</td>
<td>Dark room examinations.</td>
<td>Review the results of the Dark Room Examinations of Subject Baker. Ask students to discuss the category or categories of drugs that would produce these results.</td>
</tr>
<tr>
<td>f.</td>
<td>Other evidence and additional observations</td>
<td>Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Baker.</td>
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<td>g.</td>
<td>Narrative report.</td>
<td>Briefly review the narrative report on the reverse side of the &quot;Baker&quot; exemplar. Point out that the DRE's opinion is missing from this sample report. Ask students to comment on the category or categories of drugs that would be consistent with all of the evidence on this exemplar.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>h. Opinions of evaluator.</td>
<td>Point out that the evidence indicates that Subject Baker is under the influence of CNS Stimulants.</td>
<td>Solicit students' questions concerning this demonstration.</td>
</tr>
</tbody>
</table>

**B. Interpretation Practice**

25 Minutes

1. Team practice.  

Assign students to work in teams of three or four members.

Tell teams that they are to review three exemplars (Subjects Charles, Dodge and Edwards). Team members are to discuss the evidence among themselves and reach a conclusion concerning the category or categories of drugs, if any.

Teams will present their conclusions to the entire class.

a. Review and discussion of exemplars by teams.  

Allow teams approximately 15 minutes to review the three exemplars and reach their conclusions.

b. Feedback of results.

- Subject Charles
- Subject Dodge

Poll the teams to determine their conclusions concerning the category or categories of drugs present in each subject.
<table>
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<tr>
<td>o Subject Edwards</td>
<td>2. Session wrap-up.</td>
<td>Offer appropriate comments concerning the teams performance. Solicit students' comments and questions concerning this practice session.</td>
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Session XV
Practice: Test Interpretation

Practice: Test Interpretation

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

- Analyze the results of a complete drug influence evaluation and identify the category or categories of drugs affecting the individual examined
- Articulate the basis for the drug category identification

QUESTIONS?
DRUG CATEGORIES FOR INTERPRETATION PRACTICE

<table>
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<th>CATEGORY(IES)</th>
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<td>CNS Depressant</td>
</tr>
<tr>
<td>Baker</td>
<td>CNS Stimulant</td>
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<tr>
<td>Charles</td>
<td>Alcohol only (CNS Depressant)</td>
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<tr>
<td>Dodge</td>
<td>CNS Stimulant</td>
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<tr>
<td>Edwards</td>
<td>Hallucinogen</td>
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## Drug Influence Evaluation

**Name:** Josh Warner  
**DRE No.:** 1739  
**Session No.:** XV-I-1

### Patient Information
- **Arrested Name:** Mark George  
- **DOB:** 07/06/87  
- **Race:** M  
- **Arresting Officer:** Mark George, BCSA

### Examination
- **Date & Time:** 10/06/87, 10:30pm, Co. Jail  
- **Breath Results:** 1235 0.00%  
- **Medical History:**  
  - **Blood Pressure:** 104/70  
  - **Temperature:** 98.6°F

### Physical Examination
- **Coordination:** Poor, Stumbling, Staggering  
- **Posture:** Slurred, Thick  
- **Pupils:** Equal, Round

### Reflexes
- **Right Knee:** 25  
- **Left Knee:** 27

### Sensory Exams
- **Vision:** Normal
- **Pain:** Normal
- **Position:** Normal

### Neurological
- **Speech:** Normal
- **Motor:** Normal

### Cognitive Test
- **Draw Lines to Spots Touched:** Clear

### Miosis
- **Right Eye:** Yes  
- **Left Eye:** Yes

### Right and Left Arms
- **Right Arm:** No Visible Marks  
- **Left Arm:**

### Comments
- **Muscle Tone:** Normal
- **Reflexes:** Normal

### Conclusion
- **Refused**

---

**DRE Signature (right hand):** Mark George, BCSA
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Adams, Frances A.

1. LOCATION: The evaluation of Frances Adams took place in the interview room at the Boulder County Jail.

2. WITNESSES: The evaluation was witnessed and recorded by Deputy Mark George of the Boulder County S.O.

3. BREATH ALCOHOL TEST: Deputy George administered a breath test to Adams with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by radio and advised to contact Deputy George at the Boulder Co. Jail for a drug evaluation. Deputy George advised that he arrested Adams for DUI after observing him commit numerous traffic violations and performing poorly on the SFST’s.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the jail. His head was tilted forward, his eyes were closed and his breathing was deep and slow. He responded slowly to questions and his speech was slow, slurred and thick.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: The suspect had difficulty performing the psychophysical tests. Romberg Balance: Suspect had an approximate 3” side to side sway and estimated 30 seconds in 55 seconds. Walk & Turn: Suspect lost his balance during the instructions, missed heel to toe, stopped while walking, turned improperly, stepped off the line and used his arms for balance. One Leg Stand: Suspect lost his balance, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts.

8. CLINICAL INDICATORS: Suspect had six clues of HGN and a Lack of Convergence. His pulse and blood pressure were below the normal ranges.

9. SIGNS OF INGESTION: None evident.

10. SUSPECT’S STATEMENTS: Suspect stated he was very sleepy and denied using drugs.

11. DRE’S OPINION: In my opinion Adams is under the influence of a CNS Depressant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS:
**DRUG INFLUENCE EVALUATION**

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<td>Dr. Jim Klock</td>
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<td><strong>DOE #:</strong></td>
<td>107/16</td>
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<td><strong>Rolling Log #:</strong></td>
<td>4-036</td>
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<td><strong>Session:</strong></td>
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**Examiner/Witness:**
- Sam B.

**Date of Examination:**
- 07/14/72

**Location:**
- 2230, Cooperstown Rd.

**Time:**
- 8:30 AM

---

**Eye:**
- Left: Normal
- Right: Normal

**Pupil Size:**
- Left: 6.0
- Right: 6.0

**Pupil Reaction:**
- Yes, Equal

**Blood Pressure:**
- 142/70

**Temperature:**
- 99.1°F

**Date of Birth:**
- 07/14/72

---

**Medical History:**
- No

---

**Blood Alcohol Analysis:**
- 0.00

**Chemical Test:**
- Refused

---

**Appearance:**
- Normal

**Cooperation:**
- Poor, Stumbling

---

**Speech:**
- Rapid, slurred

**Loss of smooth pursuit:**
- Maximum deviation

**Angle of onset:**
- None

**Romberg Balance Test:**
- Walked rapidly

---

**One Leg Stand:**
- Counted to 1040 in 30 seconds

---

**Type of Footwear:**
- Athletic Shoes

**Nasal Area:**
- Redness

---

**Reaction to Light:**
- Slight

---

**Opinion of8:**
- Dr. Jim Klock

**Address:**
- 2130

---

**Opinion of Evaluator:**
- No Rule Out
- No Alcohol
- No CNS Stimulant
- No Dissociative Anesthetic
- No Inhaled

---

**Evaluator:**
- Dr. Jim Klock

**Date:**
- 07/14/72
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Baker, Sam B.

1. **LOCATION**: The evaluation of Sam Baker was conducted in the breath testing room at the Cooperstown Police Department.

2. **WITNESSES**: The evaluation was witnessed and recorded by Sgt. Doug Paquette of the New York State Police.

3. **BREATH ALCOHOL TEST**: The arresting officer, Trooper Jim Guerriere of the N.Y.S.P. administered a breath test to Baker with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER**: Writer was contacted by radio and advised to meet Trooper Guerriere at the Cooperstown Police Department for a drug evaluation. Upon contacting Trooper Guerriere it was determined he had arrested Baker for DUI after his vehicle crossed the center line and nearly struck Trooper Guerriere’s patrol vehicle.

5. **INITIAL OBSERVATION OF SUSPECT**: Writer first observed the suspect standing in the breath testing room with Trooper Guerriere. The suspect was repeatedly shifting his weight from foot to foot. He was scratching his head and was perspiring heavily. He appeared nervous, anxious and was very restless. His speech was fast and slurred at times.

6. **MEDICAL PROBLEMS AND TREATMENT**: None noted or stated.

7. **PSYCHOPHYSICAL TESTS**: The suspect had difficulty performing the psychophysical tests. Romberg Balance: Suspect had an approximate 3” front to back sway and estimated 30 seconds in 15 seconds. Walk & Turn: Suspect performed the test very quickly, used his arms for balance and stopped while walking. One Leg Stand: Suspect swayed while balancing, used his arms for balance and put his foot down once. He also counted fast counting to 1000-40 in 30 seconds. Finger to Nose: Suspect missed the tip of his nose on all six attempts using quick jerky movements.

8. **CLINICAL INDICATORS**: The suspect’s pulse, blood pressure and temperature were above the normal ranges. His pupils were dilated in room light and in direct light.

9. **SIGNS OF INGESTION**: The suspect had a reddened nasal area and his nose was runny.

10. **SUSPECT’S STATEMENTS**: Suspect denied using any drugs.

11. **DRE’S OPINION**: In my opinion Baker is under the influence of a CNS Stimulant and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE**: The suspect provided a urine sample.
**DRUG INFLUENCE EVALUATION**

**Evaluator:**
- Name: Steve Johnson
- DRE No.: 2016
- Session: XV-1-#3
- Case #: 04-10427
- Recipient/Witness Name: H.T. Jackson, WSP
- Register No.: 04-021
- Apparent's Name (Last, First M): Charles M. C.
- DOB: 09/11/72
- Sex: M
- Race: W
- Arresting Officer (Name, ID No.): T.H. Jackson, WSP
- Breathing: Unaffected
- Instrument #: 242005
- Blood

**Time:**
- 11:30 P.M.
- Last Night 7 M.S.
- Do you take inhaled? Yes
- Do you have any physical defects? No
- Are you under the care of a doctor or dentist? No
- Are you taking any medication or drugs? Yes

**Attitude:** COOPERATIVE

**Coordination:** POOR, STAGGERING

**Speech:** SLURRED

**Pupil size:** EQUAL

**Eye response:** EQUAL

**Blood pressure:** 98/64

**Temperature:** 98.6°F

**Blood tests:**
- Urine
- Blood

**Breath Tests:**
- Refused

**Chemical Test:**
- Refused

**Breath Analysis:**
- Instrument #: 242005
- 0.07%

**Drug Influence:**
- Brain: Addictive or Habitual Drugs
- Alcohol: Positive
- CNS Stimulant: Negative
- CNS Depressant: Negative
- Hallucinogen: Negative
- Narcotic Analgesic: Negative
- Cannabis: Negative

**Turn:**
- Last Balance/Sagged

**Draw lines to spots touched:**
- Right Arm: No Visible Marks
- Left Arm: No Visible Marks

**意见:**
-Reviewed by: Carlos Rodriguez, 07/11/16

**Other:**
- Handwriting: N/A
- Date of Accident: 06/24/10
- Time DRE Notified: 06/24/10
- Time Completed: 07/15/10

**Opinion of evaluator:**
- Risk
- Alcohol
- Medical
- CNS Stimulant
- CNS Depressant
- Hallucinogen
- Narcotic Analgesic
- Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Charles, Mary C.

1. **LOCATION:** The evaluation of Mary Charles was conducted in the interview room at the Washington State Patrol Office in Olympia.

2. **WITNESSES:** The evaluation was recorded and witnessed by the arresting officer, Trooper Harlan Jackson of the Washington State Patrol.

3. **BREATHE ALCOHOL TEST:** Trooper Jackson administered a breath test to Charles with a 0.07% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Trooper Jackson contacted the writer at the Olympia Patrol Office requesting a drug evaluation on suspect Charles. Trooper Jackson advised the suspect had been reported by several motorists as a possible impaired driver. He located the suspect traveling SB on I-5 near MP 108. The suspect was unable to maintain a single lane of travel and had traffic backed up behind her. When contacted, the suspect had slow, sluggish reactions and slurred speech. She performed poorly on the SFST’s and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room with Trooper Jackson. She was swaying as she stood and was very unstable on her feet. She repeatedly blinked her eyes and her speech was slow, thick and slurred.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect had an approximate 2” circular sway and estimated 30 seconds in 40 seconds. Walk & Turn: Suspect lost her balance during the instructions, missed heel to toe, stepped off the line and used her arms for balance. One Leg Stand: Suspect swayed while balancing, used her arms for balance and put her foot down three times. Finger to Nose: Suspect missed the tip of her nose on three of the six attempts.

8. **CLINICAL INDICATORS:** The suspect exhibited six clues of HGN and a Lack of Convergence.

9. **SIGNS OF INGESTION:** The suspect had an odor of an alcoholic beverage on her breath.

10. **SUSPECT’S STATEMENTS:** Suspect admitted drinking a “couple of beers” earlier in the evening. She denied using any drugs other than her birth control pills.

11. **DRE’S OPINION:** In my opinion Charles is under the influence of Alcohol (ETOH) and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION

Evaluator: Dave Anderson, NLETC

DRE No.: 1957

Rolling Log No.: 04-102

Session XV-1-#4

Case #: 04-3313

Date and Location: 08/23/04, 10:15 pm, E.I.P.O.

Ethanol: 0.00%

Chemical Test: Refused

Urinalysis: Blood

Date of Last Drink: N/A

Time of Last Drink: N/A

What have you eaten today? 2 Tacos, 2 Asparagus

What have you been drinking? Nothing

Are you sick or injured? No

Are you diabetic or epileptic? Yes

Are you taking any medication or drugs? Yes

Attitude: Careful, Cooperative

Breath: Normal

Face: Normal

Speech: Rapid

Corrective lens: No

Glucose: No

Contacts: No

HGN:

1. 100
2. 100
3. 100

Lack of smooth pursuit
Maximum deviation
Angle of onset

Romberg Balance:

Walk and Turn test:

Cannot keep balance

Nasal area: Redness

Draw lines to spots touched

Pupil Size: Left 0.9 Right 0.9

Dilated: Left 0.9 Right 0.9

Motility:

Hepatic: Yes

Rebound dilatation: 0

Reaction to Light:

N/A

Opinion of evaluator:

None

No answer

Date of Arrest: 08/23/04, 9:25 pm

Time DRS Notice: 10:13 pm

DIAGNOSIS (withstanding risk):

DSM-IV: N/A

Revised by: David Anderson

Opinion of evaluator:

None

No answer

None

None

None

None

None

None

None

None

None

None

None

None

None

None

None
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Dodge, Fred D.

1. LOCATION: The evaluation of Fred Dodge was conducted in the interview room at the Grand Island Police Department.

2. WITNESSES: The evaluation was recorded by the arresting officer, Sgt. Dale Hilderbrand of the Grand Island Police Department and witnessed by Captain Darrell Fisher of the Nebraska State Patrol.

3. BREATH ALCOHOL TEST: Sgt. Hilderbrand administered a breath test to Dodge with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Sgt. Hilderbrand contacted the writer and requested a drug evaluation on suspect Dodge. Writer contacted Sgt. Hilderbrand at the G.I. P.D. where it was determined that the suspect had been involved in an attempted elude and was apprehended at E. Bismark Road and S. Oak. The suspect was very restless and had exaggerated reflexes. He was very talkative and his speech was rapid. He performed poorly on SFST’s and was arrested for DUL.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room. He was smiling and joking with Sgt. Hilderbrand. His speech was rapid and loud. He seemed boisterous and unconcerned about being under arrest.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect had an approximate 2" side to side sway and estimated 30 seconds in 15 seconds. Walk & Turn: Suspect twice started the test too soon, stopped walking on his fifth step, raised his arms for balance and performed the test quickly. One Leg Stand: Suspect swayed while balancing and put his foot down once. Finger to Nose: Suspect missed the tip of his nose on all six attempts.

8. CLINICAL INDICATORS: The suspect’s pulse and blood pressure were above the normal ranges. His pupils were dilated in all three lighting levels.

9. SIGNS OF INGESTION: The suspect had four fresh puncture marks on the inside of his left forearm.

10. SUSPECT’S STATEMENTS: Suspect denied any drug use.

11. DRE’S OPINION: In my opinion Dodge is under the influence of a CNS Stimulant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Edwards, Joan E.

1. **LOCATION:** The evaluation of Joan Edwards was conducted in the interview room at the Lakeland Police Department.

2. **WITNESSES:** The evaluation was recorded by DRE Regional Coordinator, Lt. Teri Dioquino of the Pinellas County Sheriff’s Office.

3. **BREATH ALCOHOL TEST:** The arresting officer, Officer Ray Floyd of the Lakeland Police Department administered a breath test to Edwards with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted by dispatch and advised to contact Officer Floyd at L.P.D. for a drug evaluation. After contacting Officer Floyd it was determined he had found the suspect standing on the hood of her vehicle in the intersection of S. Florida Ave and Alamo Drive. She was waving her arms and screaming at cars as they passed by. It was determined that she had driven her vehicle to the location, which led to her arrest.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room. She appeared dazed, disoriented and had difficulty standing.

6. **MEDICAL PROBLEMS AND TREATMENT:** Suspect stated she felt sick to her stomach and felt like “throwing-up.”

7. **PSYCHOPHYSICAL TESTS:** The suspect performed very poorly on the psychophysical tests. Romberg Balance: Suspect had an approximate 3” front to back sway and estimated 30 seconds in 90 seconds. Walk & Turn: Suspect missed heel to toe on each step, stopped walking twice and made an improper turn. One Leg Stand: The test had to be stopped for safety reasons. Finger to Nose: Suspect missed the tip of her nose on all six attempts.

8. **CLINICAL INDICATORS:** The suspect’s pulse, blood pressure and temperature were above the normal ranges. Her pupils were dilated in all three lighting levels.

9. **SIGNS OF INGESTION:** None were evident.

10. **SUSPECT’S STATEMENTS:** Suspect denied any medicine or drug use.

11. **DRE’S OPINION:** In my opinion Edwards is under the influence of a *Hallucinogen* and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.

13. **MISCELLANEOUS:** After completing the evaluation the suspect was transported to the local psychiatric ward for continued monitoring.
SESSION XVI

DISSOCIATIVE ANESTHETICS
SESSION XVI    DISSOCIATIVE ANESTHETICS

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

- Explain a brief history of Dissociative Anesthetics and specifically PCP and its analogs.
- Identify common drug names and terms associated with this drug category.
- Identify common methods of administration for this drug category.
- Describe the symptoms, observable signs and other effects associated with this drug category.
- Explain the typical time parameters, i.e. onset and duration of effects, associated with this drug category.
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category.
- Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
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<tr>
<td>A. Overview of Dissociative Anesthetics</td>
<td>o  Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects of Dissociative Anesthetics</td>
<td>o  Review of DEC Exemplars</td>
</tr>
<tr>
<td>C. Onset and Duration of Effects</td>
<td>o  Reading Assignments</td>
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<td>D. Signs and Symptoms of Dissociative Anesthetics Overdose</td>
<td>o  Video Presentations</td>
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<td>E. Expected Results of the Evaluation</td>
<td>o  Slide Presentations</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td></td>
<td><strong>DISSOCIATIVE ANESTHETICS</strong></td>
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<tr>
<td>XVI-1 (Title)</td>
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<tr>
<td>XVI-2A-C (Objectives)</td>
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</tr>
<tr>
<td>XVI-3 (Overview of Dissociative Anesthetics)</td>
<td>A. Overview of the Category</td>
</tr>
<tr>
<td></td>
<td>1. Dissociative Anesthetics include drugs that inhibit pain by cutting off or disassociating the brain’s perception of pain. The drugs within this category normally will induce a state of sedation, immobility, amnesia and marked analgesia.</td>
</tr>
<tr>
<td></td>
<td>2. Phencyclidine or PCP, is a drug that, along with it’s analogs, are examples of this distinct drug category.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td></td>
<td>a. PCP shares some characteristics with each of the three categories of drugs previously covered in this training.</td>
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<tr>
<td></td>
<td>(1) It produces some effects that are similar to the effects of CNS Depressants.</td>
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<tr>
<td></td>
<td>(2) It produces some effects that are similar to those of CNS Stimulants.</td>
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<tr>
<td></td>
<td>(3) In some respects it acts like a Hallucinogen.</td>
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<tr>
<td></td>
<td>b. Phencyclidine was first developed in the late 1950s.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td>(1) The developers were searching for a drug that would serve as an efficient intravenous anesthetic.</td>
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<tr>
<td>(2) PCP proved to be a very effective anesthetic.</td>
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<td>(3) It was patented and marketed in 1963 under the trade name Sernyl.</td>
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<tr>
<td>(4) It was used in the treatment of mental and psychological disorders, including schizophrenia and alcoholism.</td>
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<tr>
<td>(5) Many adverse side effects were experienced by persons who had been treated with PCP.</td>
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<tr>
<td>(6) In 1967, use of Phencyclidine as an anesthetic for humans was discontinued.</td>
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</tr>
<tr>
<td>(7) In 1968, Parke-Davis re-patented PCP under the trade name Sernylan, which was restricted to use as a veterinary anesthetic.</td>
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<tr>
<td>(8) However, Sernylan was often illicitly diverted to &quot;street&quot; use, so most legitimate manufacturing of PCP was stopped in 1978.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td></td>
<td>c. PCP is relatively easy to manufacture.</td>
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<tr>
<td></td>
<td>(1) The chemicals required to produce it are readily available commercially.</td>
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<tr>
<td></td>
<td>(2) The formula for producing PCP has been widely publicized.</td>
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<tr>
<td></td>
<td>(3) The hardware needed to combine the chemicals is very basic.</td>
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<tr>
<td></td>
<td>d. Street names for PCP - “angel dust”, “crystal”, “sherms”, “elephant tranquilizer”, and “water”</td>
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<tr>
<td></td>
<td>e. Methods of ingestion</td>
</tr>
<tr>
<td></td>
<td>(1) Many users ingest PCP by smoking.</td>
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</table>

**XVI-5A&B (PCP Street Names)**

**XVI-6 (PCP Ingestion)**
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) PCP can be applied in either powder or liquid form to a variety of vegetable or leafy substances, which can then be smoked in a pipe or home made cigarette.</td>
<td>NOTE: Liquid PCP is especially dangerous because it can be absorbed through the skin. Hence, it could be used as a weapon.</td>
<td></td>
</tr>
<tr>
<td>(b) Popular substances include mint leaves, parsley, oregano, tobacco or Marijuana.</td>
<td>Point out that PCP smoke is very hot and can irritate the mouth and tongue. Mint leaves and similar material help to cool the smoke.</td>
<td></td>
</tr>
<tr>
<td>(c) Commercially prepared cigarettes can also be dipped in liquid PCP, allowed to dry and then smoked.</td>
<td>NOTE: PCP adulterated cigarettes usually will be wrapped in metal foil to be preserved.</td>
<td></td>
</tr>
<tr>
<td>(d) Some users prefer to dip a string in liquid PCP, and then insert the string into a tobacco cigarette.</td>
<td>Point out that &quot;Kool&quot; and &quot;Sherman&quot; brand cigarettes are popular for this, because they are mentholated. PCP-adulterated cigarettes are sometimes called &quot;Super Kools&quot; or &quot;Sherms&quot;.</td>
<td></td>
</tr>
<tr>
<td>(2) PCP can also be insufflated or &quot;snorted&quot;.</td>
<td>NOTE: White cigarette paper will be stained brown if adulterated with PCP. Brown cigarette paper will show white crystals, when adulterated.</td>
<td></td>
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<tr>
<td>(3) It can also be taken orally, in capsule or tablet form.</td>
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<tr>
<td>(4) Some users inject liquid PCP, either directly into a vein, under the skin or into a muscle.</td>
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</tbody>
</table>
(5) Some users have administered PCP to themselves by dropping liquid PCP onto their eyes, using an eyedropper.

(6) Transdermal absorption of PCP has also been reported (i.e. when applied to the skin, especially as a liquid, PCP can penetrate directly into the body and bloodstream).

3. Another drug in this category is called Ketamine. It continues to be manufactured and sold legitimately.

a. Ketamine is used as a rapid surgical anesthetic, both for animals and humans, especially children.

b. Ketamine is also used for burn victims.

c. Street names include “K”, “Special K”, “Vitamin K”, “Jet” and “Super acid”.

d. Methods of ingestion

(1) Many users ingest Ketamine by smoking.

(a) Ketamine can be applied in either powder or liquid form to a variety of vegetable or leafy substances, which can

Re-emphasize the danger to officers handling suspected drugs without proper protective gloves. Solicit students’ questions and comments about the overview of PCP.

Write Ketamine on the dry erase board or flip-chart.

Ketamine is a white, crystalline powder or clear liquid.

Some brand names of Ketamine: Ketalar, Ketaject, Ketaset, and Vetalar.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>then be smoked in a pipe or homemade cigarette.</td>
<td></td>
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</tr>
<tr>
<td>(b) Popular substances include mint leaves, parsley, oregano, tobacco or Marijuana.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Commercially prepared cigarettes can also be dipped in liquid Ketamine, allowed to dry and then smoked.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Some users prefer to dip a string in liquid Ketamine, and then insert the string into a tobacco cigarette.</td>
<td></td>
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<tr>
<td>4. 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.</td>
<td><strong>Point out</strong> that DREs frequently encounter persons abusing DXM due to its availability in so many over-the-counter products.</td>
<td></td>
</tr>
<tr>
<td>a. DXM is a synthetically produced substance that is chemically related to Codeine, although it is not an opiate.</td>
<td><strong>Point out</strong> In some respects, DXM’s effects can be similar to a CNS Depressant, CNS Stimulant, and Hallucinogens. It has been classified as a CNS Depressant in some medical texts and scientific/research reports.</td>
<td></td>
</tr>
<tr>
<td>b. 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.</td>
<td><strong>Point out</strong> that DXM is often in other over-the-counter substances containing Acetaminophen, Chlorpheniramine and Guaifenesin.</td>
<td></td>
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</tbody>
</table>
### Aids Lesson Plan Instructor Notes

#### XVI-8B (DXM Street Names)

- **c.** Street names for Dextromethorphan include: “DXM”, “robo tripping”, “Skittles”, “Triple C”, “Robo dosing”, “DM”, “robo”

- **d.** DXM abusers normally ingest the drug orally, although some snort the pure powdered form of the drug.

  (1) Some abusers ingest 250 to 1,500 milligrams in a single dosage.

---

#### B. Possible Effects

1. Continuing research demonstrated that PCP consistently produced adverse side effects:

   - **a.** delirium
   - **b.** agitation, anxiety
   - **c.** rigid muscle tone
   - **d.** elevated blood pressure
   - **e.** convulsions
   - **f.** difficulty in speech
   - **g.** hallucinations
   - **h.** violent reactions

   **Delirium:** confusion, incoherent speech, excitement, illusions, hallucinations, and disorientation.

   **Convulsion:** involuntary contortion of the muscles, producing contortion of the body and limbs.
2. Some lingering and long term effects were also noted.
   a. Some patients complained of dizziness for several hours after their attention and consciousness appeared to be cleared of PCP's effects.
   
   b. Some patients reported memory disorders and other psychological disorders resembling schizophrenia for several months and even years afterwards.

3. PCP is classified as a Dissociative Anesthetic, because it cuts off the brain's perceptions of the senses.
   a. PCP users often feel that their heads are physically separated from their bodies.
   b. They sometimes report feeling they are dead, and that their heads are floating away.

4. Cases of terribly bizarre, self destructive behavior have been reported with persons under the influence of PCP.

PCP has sometimes been called a psychotomimetic drug; i.e. it produces effects that mimic psychosis, or "craziness". When the craziness remains long after the drug has dissipated, we say that its effects were psychotogenic, i.e. it didn't simply mimic craziness, it caused craziness.
a. One young man methodically pulled his own teeth out, using a pair of pliers.

Point out that PCP can render the user impervious to pain. It anesthetizes the central nervous system to the extent that surgery could be performed on the user while he or she is wide awake.

b. Another individual suffered hallucinations of unbelievably grotesque monsters, and gouged out his own eyes to avoid seeing the monsters.

NOTE: Instructors should feel free to replace or supplement these examples with others known personally to them.

c. Another young man drank rat poison, attempting to kill rats that he imagined were inhabiting his body.

d. A nude woman plunged a butcher knife into her own eye, chest, groin and abdomen. She then threatened a police officer with the knife and was shot to death.


5. Abusers will also ingest various amounts of DXM depending on their body weight and the effect or “plateau” that they are attempting to achieve. Plateau’s include:

a. 1st Plateau: Mild inebriation.

b. 2nd Plateau: An effect similar to alcohol intoxication with mild hallucinations.

Point out that speech at the 2nd plateau can become slurred, and short term memory may be temporarily impaired.

Point out that the normal recommended therapeutic dosages of DXM are 10 to 20 milligrams for every four hours or 30 milligrams every 6 to 8 hours.
c. 3rd Plateau: An altered state of consciousness where the abuser’s senses, particularly vision, can become impaired.

d. 4th Plateau: Mind and body dissociation or an “out of body” experience.

   e. Other effects include: blurred vision, body itching, rash, sweating, fever, hypertension, shallow respiration, diarrhea, toxic psychosis, and an increased heart rate and blood pressure.

C. On-set and Duration of Effects

1. PCP

   a. When PCP is smoked or injected, onset occurs within 1-5 minutes.

   b. When inhaled ("snorted") onset occurs in 2-3 minutes.

   c. Onset is considerably slower when PCP is taken orally: 30-60 minutes.

   d. The effects reach their peak in about 15-30 minutes, assuming the PCP was smoked, injected or snorted.

   e. The effects generally last 4-6 hours, but they can go somewhat longer.

   Point out that abusers at the 4th plateau can lose some or all contact with his or her senses. The effects at this level are comparable to PCP.

   Acute dose between 250-1500 mg.
### Aids

<table>
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<th><strong>Lesson Plan</strong></th>
<th><strong>Instructor Notes</strong></th>
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<tbody>
<tr>
<td>f. The user usually, but not always returns to normal within 24-48 hours.</td>
<td></td>
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</tbody>
</table>

2. Ketamine

a. Within seconds if smoked; duration varies

b. 1-5 minutes if injected; lasting 30-45 minutes

c. 5-10 minutes if snorted; lasting 45-60 minutes

d. 15-20 minutes if orally; lasting 1-2 hours

Point out that Ketamine abusers will often “re-administer” the drug due to its relatively short duration of action.

3. Dextromethorphan (DXM)

a. Rapidly absorbed from the gastrointestinal tract and peak plasma concentrations are reached in approximately 2.5 hours.

b. DXM is widely distributed, and is rapidly and extensively metabolized by the liver.

c. DXM exerts its antitussive effects within 15-30 minutes of oral administration. The duration of action is approximately 3-6 hours with conventional dosage forms.

Point out that Dextromethorphan is demethylated to dextrophan, an active metabolite.

Solicit students' questions and comments concerning onset and duration factors.
D. Signs and Symptoms of Dissociative Anesthetic Overdose

1. In addition to the bizarre, violent and self destructive behavior discussed previously, persons severely intoxicated by Dissociative Anesthetics may exhibit definite and extreme symptoms signifying a medically dangerous condition.
   
a. A deep coma, lasting up to 12 hours.

b. Seizures and convulsions.

c. A danger associated with severe PCP intoxication is that the person may die due to respiratory depression.

d. There is also some evidence that PCP may trigger a heart attack, if the user had some pre-existing condition disposing him or her to possible cardiac problems.

e. Eyes generally open with a blank stare.

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

Solicit students questions and comments concerning signs and symptoms of PCP overdose.

E. Expected Results of the Evaluation

1. Horizontal Gaze Nystagmus generally will be present with a very early angle of onset.

Solicit students questions and comments concerning signs and symptoms of PCP overdose.
<table>
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<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>2. Vertical Gaze Nystagmus usually will be present.</td>
<td>NOTE: So-called &quot;Resting Nystagmus&quot; may be evident, especially with high doses.</td>
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<td>3. Lack of convergence will generally be present</td>
<td>That is a distinct jerking of the eyeballs even as the suspect stares straight ahead.</td>
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<td>4. Performance on Romberg will be impaired: Internal clock may be slowed.</td>
<td>With PCP, the subject may exhibit a “high gait ataxia” or &quot;moon walking&quot;, i.e. taking abnormally high and slow steps, as though he or she were trying to step over obstacles in his or her path.</td>
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<tr>
<td>5. Performance on Walk and Turn, One Leg Stand, and Finger to Nose will be impaired: muscle tone will usually be rigid.</td>
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<td>6. Blood pressure will generally be elevated</td>
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<td>7. Pulse rate will generally be elevated</td>
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<td>8. Body temperature will generally be up.</td>
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<td>9. Pupil size will be normal</td>
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<td>10. Reaction to light will be normal</td>
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<td>11. General indicators</td>
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<tr>
<td>o Blank stare</td>
<td>Note: Especially auditory hallucinations</td>
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<tr>
<td>o Confused</td>
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<tr>
<td>o Chemical odor (PCP)</td>
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<td>o Cyclic behavior (PCP)</td>
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<tr>
<td>o Difficulty with speech</td>
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<tr>
<td>o Disoriented</td>
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<tr>
<td>o Early HGN angle of onset</td>
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<tr>
<td>o Hallucinations</td>
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<tr>
<td>o Increased pain threshold (PCP)</td>
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XVI-12A
(General Indicators)
### Aids

<table>
<thead>
<tr>
<th>Lesson Plans</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Incomplete verbal responses</td>
<td>NOTE: PCP abusers may display &quot;Cyclic behaviors&quot; which mean that the signs and symptoms tend to increase and decrease cyclically.</td>
</tr>
<tr>
<td>o Loss of memory</td>
<td></td>
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<tr>
<td>o “Moonwalking” (PCP)</td>
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<tr>
<td>o Non-communicative</td>
<td></td>
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<td>o Rigid muscle tone (PCP)</td>
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<td>o Perspiring (PCP)</td>
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<tr>
<td>o Possibly violent (PCP)</td>
<td></td>
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<td>o Sensory distortions</td>
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</table>

### F. Summary

1. **Expected Results of the Evaluation**

2. When a DRE concludes that a subject is impaired by a Dissociative Anesthetic, such as PCP or DXM, the report should state that “the subject is under the influence of a Dissociative Anesthetic.”

3. **Demonstrations**

   a. Video demonstrations

   b. Drug Evaluation and Classification exemplars demonstrations.

   Refer students to the exemplars found at the end of Section XVI of their student manuals.

Show video of subject(s) under the influence of PCP. Relate behavior and observations to the drug Symptomatology Chart.

Point out that as with other drug categories, DREs should not specify the exact drug such as PCP, Ketamine or DXM.

Point out that tolerance may reduce some PCP symptoms.

Relate the items noted related to the Symptomatology Chart.

Solicit questions or comments concerning expected results of the drug evaluation of Dissociative Anesthetic subjects.
**Topics for Study**

1. What was the original purpose for which PCP was first patented and marketed?

   **It was developed in the 1950's as an intravenous anesthetic**

2. Why do many PCP smokers prefer to adulterate mentholated cigarettes with PCP?

   **PCP smoke is very hot, so users will cool it through the use of mentholated cigarettes**

3. What is Ketamine?

   **An analog of PCP used as a surgical anesthetic, both for animals and humans, especially children.**

4. What does the term "dissociative anesthetic" mean?

   **A dissociative anesthetic inhibits pain by cutting off (or dissociating) the brain's perception of the pain. PCP and its analogs are considered dissociative anesthetics.**

5. "Phencyclidine" is a contraction of what chemical name?

   **Phenyl Cyclohexyl Piperidine**
Session XVI
Dissociative Anesthetics

Dissociative Anesthetics
Upon successfully completing this session the student will be able to:
- Explain a brief history of Dissociative Anesthetics and specifically PCP and its analogs
- Identify common drug names and terms associated with this drug category
- Identify common methods of administration for this drug category

Dissociative Anesthetics
(Continued)
- Describe the symptoms, observable signs and other effects associated with this drug category
- Explain the typical time parameters, i.e. onset and duration of effects associated with this drug category

Dissociative Anesthetics
(Continued)
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category
- Correctly answer the “topics for study” questions at the end of this session

Overview of Dissociative Anesthetics
- Drugs that inhibit pain by cutting off or dissociating the brain’s perception of pain
- Induce a state of sedation, immobility, amnesia and analgesia

Brief History of PCP
- Developed in the late 1950’s
- An effective intravenous anesthetic
- Patented in 1963 under trade name of “Sernyl”
- Used in treating mental and psychological disorders
Brief History of PCP
(Continued)

- Produced undesirable side effects
- Use as an anesthetic for humans was discontinued in 1967
- Re-patented in 1968 as an animal tranquilizer under the trade name of “Sernylan”

Common “Street Names” for PCP

- Ace
- Amoeba
- Trank
- Jet Fuel
- Juice
- Dust
- Magic Dust
- Monkey Dust
- Crystal Joints
- Krystal
- KJ (Or CJ)
- Devil Dust
- KJ Krystal
- Angel Dust
- Krystal Joints
- Embalming Fluid
- Monkey Tranquilizer
- Lovely

More “Street Names” for PCP

- Peace
- Peace Pill
- Paz
- Green
- Elephant Tranquilizer
- Horse Tranquilizer
- Animal Tranquilizer
- Green Leaves
- Tic Tac
- Kools
- Super Kools
- Super Grass
- Super Weed
- Zombie Weed
- Peace Weed
- Mint Weed
- Killer Weed
- Sherms

Methods of Ingestion for PCP and its Analogs

- Smoking
- Orally
- Injection
- Eyedropper
- Insufflation (inhaling; snorting)

Ketamine

- Used as a rapid surgical anesthetic in both animals and humans
- Also used for burn victims

“Street Names” for Ketamine

- “K”
- “Special K”
- “Vitamin K”
- “Jet”
- “Super acid”
- “Kit Kat”
- “Lady K”
- “Kitty”
- “Cat Valium”
- “Super K”
Methods of Ingesting Ketamine
- Smoking
- Orally
- Injection
- Eyedropper
- Insufflation (inhaling; snorting)

Dextromethorphan (DXM)
- Synthetically produced
- Found in numerous over the counter cough and cold products

“Street Names” for DXM
- “Triple C”
- “Robo”
- “Robo-Tripping”
- “Skittles”
- “Robo-dosing”
- “Robo-fire”
- “Rojo”
- “Candy”
- “Velvet”
- “DM”

Methods of Ingesting Dextromethorphan
- Orally
- Injection
- Insufflation (inhaling; snorting)

Some Adverse Side Effects of PCP
- Delirium
- Agitation, anxiety
- Rigid muscle tone
- Elevated blood pressure
- Convulsions
- Difficulty in speech
- Hallucinations
- Violent reactions

On-set and Duration of PCP and its Analogs Effects
On-set:
- Smoked: 1-5 minutes
- Injected: 1-6 minutes
- Snorted: 2-3 minutes
- Orally: 30-60 minutes

Peak effects:
Generally in 15-30 minutes

Duration
4-6 hours
Onset and Duration of Effects for Dextromethorphan (DXM)
- Rapidly absorbed from the gastrointestinal tract
- Plasma concentration is reached in approximately 2.5 hours
- Expect antitussive effects in 15 – 30 minutes
- Duration of effects is approximately 3 – 6 hours

Evaluation of Subjects Under the Influence of PCP and its Analogs
- Horizontal Gaze Nystagmus - present with a very early angle of onset (maybe “immediate” or even “Resting” Nystagmus)
- Vertical Gaze Nystagmus - present
- Lack of Convergence - present
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose tests

Evaluation of Subjects Under the Influence of PCP and its Analogs
Vital Signs:
- Blood pressure - up
- Pulse - up
- Body temperature - up

Evaluation of Subjects Under the Influence of Dissociative Anesthetics
General Indicators:
- Blank stare
- Confused
- Chemical odor (PCP)
- Disoriented
- Incomplete verbal responses
- Loss of memory
- Non-communicative
- Perspiring (PCP)
- Rigid muscle tone (PCP)
- Self-reported hallucinations
- Sensory distortions
- Stuttered and repetitive speech

Dissociative Anesthetics Symptomatology Chart

<table>
<thead>
<tr>
<th>HGN</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGN</td>
<td>Present</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td>Present</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Normal</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Normal</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up</td>
</tr>
<tr>
<td>Temperature</td>
<td>Up</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Rigid (PCP)</td>
</tr>
</tbody>
</table>

Dark Room:
- Pupil size - normal
- Pupillary reaction to light - normal
QUESTIONS?
# Drug Influence Evaluation

**Evaluators**
Sgt. Gerry Britt, Yarmouth, N.S.

**DRE No.** 05/77

**Rolling Log No.** 05/12/02

**Session XVI - #1**

**Record/Witness**
Dr. Jack Richman

**Bottle No.** 388661

**Name of Person**

**DOB** 06/03/77

**Sex** M

**Race** C

**Arresting Officer (Name, ID No.)** Sgt. Bob Batista, Middleton PD

**Date, Time, Location**
12/06/04, 2100 hrs

**Miranda Warning Given?** Yes

**Breath Results** 0.00

**Chemical Test** Refused

**By** Sgt. Batista

**What did you eat yesterday?** Football

**What time did you last eat?** 6 PM

**Time of last drink?** N/A

**Do you take insulin?** Yes

**Do you have any physical defects?** Yes

**Are you under the care of a doctor or dentist?** Yes

**Are you taking any medication or drugs?** Yes

**Attitude** Passive,柯operetive

**Breath** Chemical odor

**Face** Flushed, Sweaty

**Speech** Slurred, slow, slurred

**Corrective lenses** None

**Glasses** Contacts, if so

**Contacts** Soft

**Handicap**

**Pupil size** Unequal

**Equal**

**Able to follow stimuli?** Yes

**Tympanic**

**Eye** Reddened Conjunctiva

**Normal**

**Bloodshot Eye**

**Wet eye**

**Tremor**

**Nystagmus** Yes

**Right Eye**

**Convergence**

**Lack of smooth pursuit**

**Maximum deviation**

**Angle of onset**

**Draw lines to spots touched**

**Pupil Size**

**Room Light**

**Darkness**

**Direct**

**Indirect**

**Hippus**

**Yes**

**No**

**Relaxed Dilatation**

**Reacting to Light**

**Type of Footwear** Athletic shoes

**Nasal area** Clear

**DRE Started by** ID 6479

**Time of DRE** 2100 hrs

**Evaluation Start Time** 21:45

**Time Completed** 22:00

**What medication or drug have you been using?** Nothing

**How much?** N/A

**Time of use?** No answer

**Where were you last seen?** N/A

**Where were the drugs used?** N/A

**Opinion of evaluator**

- Rule Out
- Medical
- CNS Stimulant
- Hallucinogen
- Narcotic Analgesic
- Cannabis

**Comments**

**Very rigid arms**

**What time did you last eat?** 6 PM

**Time of last drink?** N/A

**Do you take insulin?** Yes

**Do you have any physical defects?** Yes

**Are you under the care of a doctor or dentist?** Yes

**Are you taking any medication or drugs?** Yes

**Attitude** Passive,柯operetive

**Breath** Chemical odor

**Face** Flushed, Sweaty

**Speech** Slurred, slow, slurred

**Corrective lenses** None

**Glasses** Contacts, if so

**Contacts** Soft

**Handicap**

**Pupil size** Unequal

**Equal**

**Able to follow stimuli?** Yes

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**Room Light**

**Darkness**

**Direct**

**Indirect**

**Hippus**

**Yes**

**No**

**Relaxed Dilatation**

**Reacting to Light**

**Type of Footwear** Athletic shoes

**Nasal area** Clear

**DRE Started by** ID 6479

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**Where were the drugs used?** N/A

**Opinion of evaluator**

- Rule Out
- Medical
- CNS Stimulant
- Hallucinogen
- Narcotic Analgesic
- Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Ross, Robert H.

1. LOCATION: The evaluation of Robert Ross took place in the interview room at the Middleboro Police Department.

2. WITNESSES: Arresting officer; Sgt. Deb Batista of the Middleboro Police Department and Dr. Jack Richman of New England College of Optometry.

3. BREATH ALCOHOL TEST: Sgt. Batista administered a breath test to Ross at 2120 hours with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by radio and advised to contact Sgt. Batista at the Middleboro P.D. for a drug evaluation. Sgt. Batista advised that she had observed the suspect driving on N. Main Street at approximately 10 mph drifting within his lane and nearly hitting other vehicles. When stopped, the suspect appeared dazed and could not state where he was or where he came from. He had a blank stare and appeared very confused.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at M.P.D. He appeared dazed and disoriented, had a fixed stare and responded very slowly (approx. 5-10 seconds delay) to all my questions. He was perspiring heavily and had rambling speech.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” in a circular motion and estimated 30 seconds in 45 seconds. Walk & Turn: Suspect started walking immediately and lost his balance during the instructions, stepped off the line, stopped walking, repeatedly used his arms for balance and missed heel to toe. One Leg Stand: Suspect was unable to complete the test on either foot. Finger to Nose: Suspect missed the tip of his nose on each attempt and his arm movements were very rigid.

8. CLINICAL INDICATORS: Suspect exhibited an immediate onset of HGN. Vertical Gaze Nystagmus and Lack of Convergence were also present. The suspect’s pulse, blood pressure and temperature were above the normal ranges.

9. SIGNS OF INGESTION: There was a strong chemical odor on the suspect’s breath.

10. SUSPECT’S STATEMENTS: The suspect stated that he did not use any drugs.

11. DRE’S OPINION: In my opinion Ross is under the influence of a Dissociative Anesthetic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION

Evaluator: Ot. Steve Dunn, Anchorage PD

DOB: 4-10-86

Sex: M

Race: W

Arresting Officer (Name, ID No.): Ot. Pollock, A.P.D., 1374

Date/Time/Location: 04-30-05 1420 hrs, 4th Ave. Sub.

Breath Results: N/A

Chemical Test: N/A

Time of last drink: N/A

Do you have any physical defects? Yes No

Are you under the care of a doctor or dentist? Yes No

Are you taking any medication or drugs? Yes No

Attitude: Cooperative

Breath: Normal

Face: Flushed

Speech: Slurred

Corrective lens: None

Contact lenses, if so: None

HGN: 1.110/1430

Left Eye: Yes

Right Eye: Yes

Vertical Nystagmus: Immediate

Convergence: Right eye

Left eye

Romberg Balance: 2"

Walk and Turn test: N/A

Cannot do test (explain): N/A

Nasal area: Clear

Internal clock: 29

Describe Turn: Shuffled Feet

Draw lines to spots touched: N/A

Blood pressure: 152/100

Temperature: 99.7°F

Muscle tone: Near normal

Flaccid: Rigid

Comments:

What medication or drug have you been using? Coricadin

How much? 24 pills

Time of use: Last night

Where were you the drugs used? Friends House

Drug: Coricadin

Time DRE Notified: 1350 hrs

Evaluation Start Time: 1420 hrs

Time Completed: 1515 hrs

Opinion of evaluator: Rule Out

Medical

CNS Stimulant

Hallucinogen

Dissociative Anesthetic

Inhalant

Narcotic Anesthetic

Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Albright, Jeremy J.

1. LOCATION: The evaluation of Jeremy Albright took place in the DUI processing room at the 4th Avenue substation of the Anchorage Police Department.

2. WITNESSES: Arresting officer; D. Pollock, Anchorage P.D. witnessed the evaluation.

3. BREATH ALCOHOL TEST: Albright provided a breath sample to Officer Pollock on the Datamaster with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by dispatch and requested to contact Officer Pollock regarding a drug evaluation. Officer Pollock advised he had stopped the suspect for speeding on Minnesota Ave. The suspect had bloodshot eyes and slurred speech. He appeared impaired however, there was no odor of alcoholic beverage on his breath. He had six clues of HGN and performed poorly on the SFST’s. He admitted taking some “Dex” the night before.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the 4th Avenue substation. His face was flushed and his speech slurred. His movements were slow and deliberate.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 2” side to side and approximately 2” front to back. Walk & Turn: Suspect lost his balance during the instructions, turned by shuffling his feet and missed heel to toe twice. One Leg Stand: Suspect had leg tremors with no clues observed. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts. He used the pad of his finger on each attempt.

8. CLINICAL INDICATORS: HGN was present with an immediate onset. Vertical Gaze Nystagmus and Lack of Convergence were also present. His pulse, blood pressure and temperature were above the normal ranges.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT’S STATEMENTS: Suspect admitted taking about 24 Coricidin pills.

11. DRE’S OPINION: In my opinion Albright is under the influence of a Dissociative Anesthetic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: The suspect stated he had been transported to the hospital several months ago when he overdosed by taking 32 Coricidin pills.
SESSION XVII

NARCOTIC ANALGESICS
SESSION XVII  NARCOTIC ANALGESICS

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

- Explain a brief history of the Narcotic Analgesic category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe the typical time parameters, i.e. onset and duration of effects associated with this category.
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category.
- Describe the procedures for examining and determining the ages of injection sites.
- Correctly answer the "topics for study" questions at the end of this session.

Content Segments          Learning Activities
A. Overview of the Category       o Instructor Led Presentations
B. Possible Effects              o Review of Drug Evaluation and Classification Exemplars
C. On-Set and Duration of Effects o Reading Assignments
D. Overdose Signs and Symptoms   o Video Presentations
E. Expected Results of the Evaluation o Slide Presentations
F. Injection Site Examination
G. Expected Location of Injection Marks
H. Conclusion
### Aids

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>NARCOTIC ANALGESICS</strong></td>
<td>Total Lesson Time: Approximately 180 Minutes</td>
</tr>
<tr>
<td></td>
<td><strong>25 Minutes</strong></td>
<td>Display Session Title</td>
</tr>
<tr>
<td></td>
<td><strong>XVII-1 (Title)</strong></td>
<td>Briefly review the objectives, content and activities of this session.</td>
</tr>
<tr>
<td></td>
<td><strong>XVII-2A&amp;B (Objectives)</strong></td>
<td>Point out that this category sometimes is called &quot;The Opioids&quot;; the drugs it contains either are found in Opium, or derive chemically from Opium, or produce effects similar to those of the Opium Derivatives.</td>
</tr>
<tr>
<td></td>
<td><strong>XVII-3 (Narcotic Analgesics Defined)</strong></td>
<td>The term &quot;Opioid,&quot; however, most correctly refers to the synthetic subcategory of Narcotic Analgesics.</td>
</tr>
</tbody>
</table>

#### A. Overview of the Category

1. Narcotic Analgesic defined
   a. A medical term, not a legal or police term.
   b. An "Analgesic" is a drug that relieves pain. It differs from an anesthetic, in that it lowers one's perception of pain, rather than stopping nerve transmission.
   c. Non-Narcotic Analgesics, such as Aspirin, Tylenol, and Motrin, relieve pain, but do **NOT** produce narcosis, which means numbness or sedation.

   Clarification: Non-Narcotic Analgesics relieve pain, but do not alter mood. Therefore, they, in small amounts, are not psychoactive, and are not abused for their mind or mood altering actions.
### Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
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<tbody>
<tr>
<td>d. A Narcotic is a drug derived from Opium, or produced synthetically that relieves pain, but also induces euphoria, alters mood, and produces sedation.</td>
</tr>
</tbody>
</table>

XVII-4

(Types of Narcotic Analgesics)

2. There are two subcategories of Narcotic Analgesics.

   a. Opiates: drugs that either contain or are derived from Opium.

      (1) **Natural alkaloids of Opium**

         Point out that a "natural alkaloid" is a substance that is found in another substance, and that can be isolated from it. Morphine, for example, is a natural alkaloid of Opium. Codeine is another example of a natural alkaloid. The term "main ingredient" can be used as a synonym for "alkaloid."

      (2) **Opium derivatives.**

         Opium derivatives are obtained by chemically treating the Opium alkaloid. Opium Derivatives are therefore derived from Opium.

         **NOTE:** The Opium poppy, or *papaver somniferum* (somniferum, Latin for the "carrier of sleep").

         An analogy to help students understand the difference between an alkaloid and a derivative would be to compare opium to wheat. The “alkaloid” of the wheat would be whole wheat flour---a derivative of the wheat would be white flour. |
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Synthetics, which do not derive from Opium at all, but have similar or identical effects as Opium alkaloids and derivatives.</td>
<td>(wheat flour which has been chemically treated) Point out that the synthetic Narcotic Analgesics are produced from a variety of non-opiate substances. Again, these are sometimes called &quot;Opioids&quot;.</td>
</tr>
<tr>
<td></td>
<td>3. Narcotic Analgesics all share three characteristics.</td>
<td>Clarification: They produce analgesia.</td>
</tr>
<tr>
<td></td>
<td>a. They will relieve pain.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. They will produce withdrawal signs and symptoms when the user is physically dependent, and drug use is stopped.</td>
<td>Clarification: Physical dependence results from &quot;chronic administration.&quot; This means that the drug has been taken at fairly regular intervals for a period of time.</td>
</tr>
<tr>
<td></td>
<td>c. They will suppress the withdrawal signs and symptoms of chronic morphine administration.</td>
<td>Morphine is typically used as the standard for comparison with other Narcotic Analgesics. Clarification: This means that the various Narcotic Analgesics can be substituted for each other to relieve withdrawal symptoms.</td>
</tr>
<tr>
<td></td>
<td>4. Some commonly abused Opiates.</td>
<td>Point out the chart is located on page XVII-2 of the student manual.</td>
</tr>
<tr>
<td></td>
<td>a. Powdered Opium (also known as smoking Opium)</td>
<td></td>
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<tr>
<td></td>
<td>o a simple refinement of raw Opium.</td>
<td></td>
</tr>
</tbody>
</table>
### Lesson Plan

<table>
<thead>
<tr>
<th>Aids</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>o used medically to treat diarrhea (administered orally)</td>
<td>The development of more effective opiates and synthetics has virtually eliminated its use medically. In recent years, there have been little street use of Opium. It is important to realize, however, that drug use trends can and do change.</td>
</tr>
<tr>
<td>o remains popular as a drug of abuse (smoked) among some Asian-American communities.</td>
<td></td>
</tr>
<tr>
<td>b. Hydrocodone is derived from Codeine but is more closely related to Morphine in its pharmacological profile. Examples include:</td>
<td>Point out that Hydrocodone products are the most frequently prescribed pharmaceutical opiate (Narcotic Analgesic) with over 111 million prescriptions dispensed in 2003. (DEA)</td>
</tr>
<tr>
<td>o Hycodan</td>
<td></td>
</tr>
<tr>
<td>o Vicodin</td>
<td>Note: Vicodin is a commonly prescribed pain reliever containing Hydrocodone and Acetaminophen.</td>
</tr>
<tr>
<td>o Lortab</td>
<td></td>
</tr>
<tr>
<td>c. Morphine, the principal natural alkaloid of Opium.</td>
<td>Instructor, FYI: Named after Morpheus, the Greek God of dreams.</td>
</tr>
<tr>
<td>o Morphine was first isolated from Opium in 1805.</td>
<td></td>
</tr>
<tr>
<td>o used medically to suppress severe pain (e.g., with terminal cancer patients).</td>
<td>Morphine was widely used during the Civil War. Morphine addiction was termed &quot;Soldier's disease.&quot;</td>
</tr>
<tr>
<td>o highly addictive</td>
<td></td>
</tr>
<tr>
<td>o at one time, Morphine was the most commonly abused Narcotic Analgesic.</td>
<td></td>
</tr>
<tr>
<td>d. Codeine is another natural alkaloid of Opium.</td>
<td>Its technical name is Methylmorphine.</td>
</tr>
<tr>
<td>o first isolated in 1832.</td>
<td></td>
</tr>
</tbody>
</table>
Aids

Lesson Plan

Instructor Notes

- Codeine's pain killing ability is much weaker than Morphine's.

- used medically to suppress coughing or minor pain.

- Codeine is definitely an addictive drug.

- **Heroin** is the most commonly abused illicit Narcotic Analgesic.

  - derived from Morphine in 1874.

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

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

  - by the 1920's it was evident that Heroin was much more addictive than Morphine.

  - importation and manufacture of Heroin have been illegal in this country since 1925.

- **Dilaudid** is another derivative of Morphine

  - first produced in 1923.

**Clarification:** Narcotic Analgesic addicts often turn to Codeine when they cannot get more popular drugs.

Point out that the generic, or technical name for heroin is "Diacetyl Morphine".

Write "Diacetyl Morphine" on the dry erase board or flip-chart.

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

Technical Name: Hydromorphone Hydrochloride.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td>o sometimes called &quot;drug store Heroin&quot;, since it is commercially available from medical and pharmaceutical sources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Dilaudid has the same addictive liabilities as does Heroin or Morphine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o used medically for short term relief of moderate to severe pain, and to suppress severe, persistent coughs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o can be ingested via injection, orally or in suppositories.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o used medically to treat coughs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o sometimes abused by addicts who are unable to obtain Morphine or Heroin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Numorphan</td>
<td></td>
<td>Technical Name: Oxymorphone</td>
</tr>
<tr>
<td>o Used medically for the relief of chronic pain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o sold in ampules (injection) and in suppositories.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o previously (pre-1972) it was sold in tablets, and was a favorite substitute for Heroin among addicts; addicts now generally prefer Dilaudid as a Heroin substitute.</td>
<td></td>
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</table>
### Aids Lesson Plan

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<tbody>
<tr>
<td><strong>h.</strong> Oxycodone is a semi-synthetic narcotic produced by chemically treating Thebaine. It is somewhat less addictive than Morphine, but more than Codeine. Two examples are:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Percodan is one of the most commonly prescribed Narcotic Analgesics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o OxyContin is a controlled-release tablet that contains large amounts of Oxycodone (10 to 160 mg). Abusers learn to circumvent the slow-release mechanism.</td>
<td></td>
</tr>
</tbody>
</table>

### Instructor Notes

- Technical Name: Oxycodone.

- It is also produced under the brand name of "Percocet which is Percodan combined with Acetaminophen, such as Tylenol.

- Street names: “Oxy”, “OC”, “Killer”

---

### 5. Some common Synthetic Opiates

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>a.</strong> Demerol was first produced in 1939.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Technical Name: Meperidine.

- Demerol is one of the most widely used Synthetic Opiates for relief of pain and for sedation.

- It is also one of the Narcotic Analgesic that is most frequently abused by medical personnel.
<table>
<thead>
<tr>
<th>Aids</th>
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</thead>
<tbody>
<tr>
<td>o</td>
<td>Demerol is widely used as an analgesic in childbirth.</td>
</tr>
<tr>
<td>o</td>
<td>One medical advantage of Demerol is that it produces less respiratory depression than do other Narcotic Analgesics; thus, a fatal overdose is less likely with Demerol.</td>
</tr>
<tr>
<td>o</td>
<td>Medical literature sometimes indicates that Demerol does not cause pupillary constriction. Enforcement experience indicates to the contrary.</td>
</tr>
<tr>
<td>b.</td>
<td>Methadone was developed in Germany during World War II and first marketed in America in 1947.</td>
</tr>
<tr>
<td>o</td>
<td>Methadone's effects are similar to Morphine's, although they develop more slowly and last longer than do Morphine's effects.</td>
</tr>
<tr>
<td>o</td>
<td>Methadone's withdrawal symptoms are slower and milder than are Morphine's.</td>
</tr>
<tr>
<td>o</td>
<td>Used extensively in &quot;maintenance programs&quot; as a substitute for Heroin for addicts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructor Notes</th>
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<tbody>
<tr>
<td>Point out that pupillary constriction ordinarily is one of the most reliable indicators of a Narcotic Analgesic.</td>
</tr>
<tr>
<td>Methadone was developed in Germany because of wartime shortages of Morphine. Some experts have stated that the brand name for Methadone, &quot;Dolophine,&quot; was derived from Adolph Hitler.</td>
</tr>
<tr>
<td>Ask students: &quot;What is one of the most common medical uses of Methadone in this country?&quot;</td>
</tr>
<tr>
<td>Remind students that one characteristic shared by all Narcotic Analgesics is that they suppress withdrawal</td>
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<td>Aids</td>
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</table>
e. Darvon is a synthetic Narcotic of relatively low analgesic potency and relatively low addiction liability.

6. Methods of administration of Narcotic Analgesics vary from one drug to another.
   a. Some are commonly taken orally.
   b. Some are smoked.
   c. Some are snorted. (taken intranasally)
   d. Some are often administered in suppositories.
   e. Medically, some Narcotic Analgesics may be administered transdermally or through the skin.
   f. Heroin, and some others, usually are taken by injection.

Technical Name: Propoxyphene.

Users have stated that the fear of contracting diseases, such as AIDS, from shared needles, has prompted them to either snort or smoke Heroin.

If available, show slides of Heroin injection paraphernalia.

Solicit students' comments and questions concerning this overview of Narcotic Analgesics.
B. Possible Effects

1. As with nearly all the drugs of abuse, the effects produced by heroin or other Narcotic Analgesics depend on the tolerance that the user has developed for the drug.

   a. People develop tolerance for Narcotic Analgesics fairly rapidly.

   b. "Tolerance" means that the same dose of the drug will produce diminishing effects, or conversely that a steadily larger dose is needed to produce the same effects.

   Emphasize: Habitual users of drugs may develop tolerance to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even tolerant drug users, when impaired, usually exhibit clinical evidence. (i.e. in the vital signs and eye signs)

   c. A Narcotic Analgesic user who has developed tolerance and who is using his or her "normal" dose of the drug may exhibit little or no evidence of intellectual or physical impairment.

   Clarification: the tolerant addict who has injected his or her "normal" dose of Heroin may appear to be much less impaired than an inexperienced user who had taken the same dose.

   d. Impairment is more evident with new users, and with tolerant users who exceed their "normal" doses.
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<tr>
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<tbody>
<tr>
<td>XVII-9 (On the Nod)</td>
<td>2. Observable effects of Heroin and other Narcotic Analgesics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Sedation - &quot;On the Nod&quot;</td>
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<tr>
<td></td>
<td>o the condition known as &quot;on the nod&quot; is a semiconscious state of deep relaxation.</td>
<td>Point out that &quot;on the nod&quot; occurs most often with new users or with users exceeding normal doses.</td>
</tr>
<tr>
<td></td>
<td>o the user's eyelids become very droopy.</td>
<td>Remind students that the technical term for &quot;droopy eyelids&quot; is Ptosis.</td>
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<tr>
<td></td>
<td>o their head will slump forward until the chin rests on the chest.</td>
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<td>o in this condition, the user usually can be aroused easily and will be sufficiently alert to respond to questions.</td>
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<td>b. Other effects.</td>
<td></td>
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<td></td>
<td>o slowed reflexes</td>
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<td></td>
<td>o slow and raspy speech</td>
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<tr>
<td></td>
<td>o slow, deliberate movements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o inability to concentrate</td>
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</tr>
<tr>
<td></td>
<td>o slowed breathing</td>
<td>Instructor, FYI: Technical terms are Hypopnea or Bradypnea.</td>
</tr>
<tr>
<td></td>
<td>o skin cool to the touch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o possible vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o itching of the face, arms or body</td>
<td>Solicit students' comments and questions concerning possible effects of Narcotic Analgesics.</td>
</tr>
</tbody>
</table>
### Lesson Plan

C. **Onset and Duration of Effects**

1. The psychological effects of Heroin begin immediately after the injection.
   - a. A feeling of pleasure or euphoria.
   - b. Relief from the symptoms of withdrawal.
   - c. Relief from pain.

2. The observable signs will usually become evident within 5-30 minutes after the user has injected.
   - **Point out** that the intensity of the euphoria will depend on a number of factors, one of which is the addict’s tolerance. A heavily addicted user who is beginning withdrawal symptoms may experience only mild euphoria.
   - **Remind** students that the physical effects may not be observed at all, if the addict is tolerant and has injected a “normal” or “maintenance” dose.

3. The effects will usually be observable for up to 4-6 hours.
   - **Point out** that the development of withdrawal symptoms implies that the Heroin has worn off, so that the addict is no longer under the influence.

4. As the drug wears off, withdrawal signs and symptoms start to develop until the addicted user injects again.
   - As with nearly all drugs, the withdrawal signs and symptoms are essentially the opposite of the "high" or intoxicated state.
As the effects of Heroin diminish, withdrawal symptoms begin.

- aches
- chills
- insomnia
- nausea

Withdrawal signs start to become observable 8-12 hours following injection.

- goose bumps (Piloerection) on the skin
- sweating
- running nose
- tearing
- vomiting
- yawning

Withdrawal signs and symptoms closely resemble those of Influenza or the common cold.

These symptoms begin to intensify from 14-24 hours after injection, and may be accompanied by goose bumps (piloerection), slight tremors, loss of appetite and dilation of the pupils.

Approximately 24-36 hours after injection, the addicted

"Piloerection" means "hair standing up".
Point out that "sweating" usually is the first withdrawal sign to appear.
Point out that yawning, tearing, runny nose and vomiting usually appear only after marked withdrawal of many hours.
Point out that "withdrawal" signs of Narcotic Analgesics are essentially the opposite of their "under the influence" signs.
<table>
<thead>
<tr>
<th>Aids</th>
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<th>Instructor Notes</th>
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</thead>
<tbody>
<tr>
<td>XVII-11C</td>
<td>user experiences insomnia, vomiting, diarrhea, weakness, depression and hot and cold flashes.</td>
<td>c. Withdrawal symptoms and signs generally reach their peak 2-3 days after injection:</td>
</tr>
<tr>
<td>XVII-11D</td>
<td>o muscular and abdominal cramps</td>
<td>Point out that the involuntary tremors and twitching of the legs give rise to the expression &quot;kicking the habit&quot;.</td>
</tr>
<tr>
<td>XVII-11E</td>
<td>o elevated temperature</td>
<td>Point out that the involuntary tremors and twitching of the legs give rise to the expression &quot;kicking the habit&quot;.</td>
</tr>
<tr>
<td></td>
<td>o severe tremors and twitching</td>
<td>Point out that the involuntary tremors and twitching of the legs give rise to the expression &quot;kicking the habit&quot;.</td>
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<td></td>
<td>d. The addicted user at this point is nauseated, gags, vomits and may lose 10-15 pounds within 24 hours.</td>
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<td></td>
<td>e. The withdrawal syndrome continues to decrease in intensity over time, and is usually greatly reduced by the fifth day, disappearing in one week to 10 days.</td>
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<td></td>
<td>f. A common misconception regarding withdrawal from Narcotic Analgesics is that they may be fatal. In reality, however, although Narcotic withdrawal is extremely uncomfortable, it rarely, if ever, proves fatal.</td>
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<tr>
<td>D.</td>
<td><strong>Overdose Signs and Symptoms</strong></td>
<td>Solicit students' comments and questions concerning onset and duration of the effects of Narcotic Analgesics.</td>
</tr>
<tr>
<td></td>
<td>1. Narcotic Analgesics depress respiration.</td>
<td>Point out that this is an effect that Narcotic Analgesics have in common with CNS Depressants.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>a. In overdoses, the user's breathing will become slow and shallow.</td>
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<td>b. Death can occur from severe respiratory depression.</td>
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<tr>
<td>c. The danger of death is heightened by the fact that the addicted user may not know the strength of the drug he or she is taking.</td>
<td>Clarification: the percentage of pure Heroin in the sample the addict uses may be much higher than what the addict expects and is used to.</td>
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<tr>
<td>2. Other signs and symptoms of an overdose of a Narcotic Analgesic include clammy skin, convulsions and coma, blue lips and pale or blue body, extremely constricted pupils (unless there is brain damage, in which pupils may be dilated), recent needle marks, or perhaps a needle still in the user's arm.</td>
<td>E.g., &quot;Tango and Cash&quot; and &quot;Goodfellas&quot; were sold on the street as high grade Heroin. Rather, these contained the much more potent Fentanyl, resulting in many fatalities.</td>
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<td>3. Narcotic Analgesic overdoses are sometimes treated by the administration of a Narcotic antagonist such as Narcan. A Narcotic antagonist works at neuron receptor sites, blocking or counteracting the effects of Narcotic Analgesics. In effect, these substances precipitate withdrawal. The short duration of effects produced by Narcotic antagonists, however, require continued medical monitoring of the user.</td>
<td>Point out that a person suffering from Narcotic Analgesic overdose may appear to be in shock.</td>
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<td></td>
<td>Solicit students' comments and questions concerning signs and symptoms of an overdose of Narcotic Analgesics.</td>
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### E. Expected Results of the Evaluation

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<th>Instructor Notes</th>
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<tr>
<td></td>
<td>1. Observable evidence of impairment.</td>
<td>But remind students that Nystagmus could be present if the user has taken Heroin and PCP, or alcohol or some other CNS Depressant, or an Inhalant.</td>
</tr>
<tr>
<td></td>
<td>o Neither Horizontal Gaze Nystagmus nor Vertical Gaze Nystagmus will be present.</td>
<td>Point out that, if the user has injected enough Narcotic Analgesic to exceed his or her level of tolerance, his or her performance of the Standardized Field Sobriety Tests will be uncoordinated and &quot;rubber-legged&quot;, similar to that caused by CNS Depressants.</td>
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<td>o Eyes will not exhibit a Lack of Convergence.</td>
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<td>XVII-12A,B,&amp;C (Evaluation Results)</td>
<td>o Performance on Romberg will be impaired. Generally, the subject will appear drowsy, and will have a slow internal clock.</td>
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<td>o Performance on Walk and Turn and One Leg Stand will be impaired, and will reflect the slow and deliberate movements caused by this category of drugs.</td>
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<td></td>
<td>o Performance on Finger to Nose will also be impaired. Generally, the subject will appear drowsy, possibly &quot;on the</td>
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### Aids Lesson Plan

<table>
<thead>
<tr>
<th>Instructors Notes</th>
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<tr>
<td>Remind students that these cardiovascular indicators may not be present if the suspect is a tolerant user who has taken a &quot;normal&quot; dose of the drug.</td>
</tr>
<tr>
<td>Point out that constricted pupils are one of the most reliable indicators of a Narcotic Analgesic. The technical term for &quot;constricted pupils&quot; is &quot;Miosis.&quot;</td>
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<tr>
<td>NOTE: &quot;Hippus&quot; means pulsating pupils, i.e. alternately expanding and contracting in diameter.</td>
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### XVII-12D (General Indicators)

#### b. General indicators

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<tbody>
<tr>
<td><strong>o</strong> Constricted pupils</td>
<td><strong>o</strong> Itching - Caused by the release of Histamines.</td>
</tr>
<tr>
<td><strong>o</strong> Depressed reflexes</td>
<td><strong>o</strong> If available, show slides of typical addicts' &quot;track&quot; marks.</td>
</tr>
<tr>
<td><strong>o</strong> Drowsiness</td>
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<tr>
<td><strong>o</strong> Droopy eyelids (Ptosis)</td>
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<td><strong>o</strong> Dry mouth</td>
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<tr>
<td><strong>o</strong> Euphoria</td>
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<td><strong>o</strong> Facial itching</td>
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<td><strong>o</strong> Flaccid muscle tone</td>
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<td><strong>o</strong> Nausea</td>
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<td><strong>o</strong> On the nod</td>
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<tr>
<td><strong>o</strong> Puncture marks</td>
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<td><strong>o</strong> Slowed reflexes</td>
<td></td>
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<tr>
<td><strong>o</strong> Slow, low, raspy speech</td>
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<tr>
<td><strong>o</strong> Slowed breathing</td>
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<td>Aids</td>
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<tr>
<td>XVII-13 (Symptomatology Chart)</td>
<td>2. Summary</td>
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<td>3. Demonstrations</td>
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<td>a. Video demonstrations.</td>
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<td>b. Drug Evaluation and Classification exemplars demonstrations.</td>
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<td>F. Injection Site Examination</td>
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<td>1. Examination of suspect's injection sites can give many clues to their drug habits.</td>
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<tr>
<td></td>
<td>a. Many drugs can be injected.</td>
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<td>b. Injection sites are a sign of drug use which may or may not be recent.</td>
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<td>c. May be evidence of habitual use.</td>
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<td><strong>Aids</strong></td>
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<tr>
<td>2. The trauma to the skin, muscles and the blood is the basic concept of injection sites.</td>
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<td>3. Drugs and medication are injected into the body in three ways.</td>
<td>Abbreviated as I/M.</td>
</tr>
<tr>
<td>a. Legal injections are usually Intramuscular.</td>
<td>b. Subcutaneous, means just under the skin.</td>
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<tr>
<td>c. For medically drawing of blood or emergency medical procedures, the injection is made into a blood vessel (Intravenous). Veins are usually used. Arteries are deep, thus not lending themselves to injection.</td>
<td>Instructor: Insulin injections are “Subcutaneous” (S/C) and are not normally I/M or I/V injections.</td>
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<td>4. The primary instrument for injection is the hypodermic syringe.</td>
<td>Abbreviated as I/V.</td>
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<td>a. It consists of a hollow needle, a tube and a plunger.</td>
<td>b. Needles vary in size, with the primary variance being the inside diameter of the needle or the gauge.</td>
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<td>c.</td>
<td>The greater the number the larger the gauge, the smaller the inside diameter of the needle.</td>
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<td>d.</td>
<td>Most illegal drug users prefer a larger gauge needle.</td>
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<td>5.</td>
<td>The user's equipment is commonly referred to as a &quot;hype kit&quot; or &quot;works&quot;.</td>
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<tr>
<td>a.</td>
<td>The kit contains a &quot;cooker&quot; which is any device such as a bottle cap, a metal spoon or etc., that is used to heat the drug with water to form an injectable solution.</td>
</tr>
<tr>
<td>b.</td>
<td>A handle to hold the &quot;cooker&quot; over the flame.</td>
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<tr>
<td>c.</td>
<td>Matches, lighters (primarily disposable, adjustable flame types) used to heat the substance in the &quot;cooker&quot;.</td>
</tr>
<tr>
<td>d.</td>
<td>A tourniquet, which can be a rubber tubing, a tie, belt, etc. It is tied around the arm, above the injection site, to cause the vein to bulge or rise, thus making it easier to inject.</td>
</tr>
<tr>
<td>e.</td>
<td>&quot;Cottons&quot; are the cotton balls or cigarette filters used to &quot;purify&quot; the drug. The user places the &quot;cottons&quot; into their cooker and draws the drug up through the cottons.</td>
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<td>6.</td>
<td>As an expert, you may be asked in court to describe the difference between a legal and an illegal injection site.</td>
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<tr>
<td></td>
<td>a. The legal mark is usually intramuscular. Some exceptions would be in an emergency, blood donation or lab tests.</td>
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<td></td>
<td>b. Usually there will be only one mark and it will be larger than the typical illegal injection.</td>
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<td>c. Legal injections are made with new, sterile needles.</td>
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<td></td>
<td>d. The illegal mark is usually over a vein.</td>
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<td></td>
<td>e. There will usually be multiple marks in various stages of healing. It takes approximately two weeks for a &quot;mark&quot; to totally heal.</td>
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<td>f. Users frequently use the same needle over and over again. Thus making it become dull or barbed.</td>
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<td></td>
<td>g. Since the used needles make it more difficult to pierce the skin and vein, the injections sites may be jagged.</td>
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<td></td>
<td>h. Use of old, dirty and shared needles cause the spread of infections and diseases such as AIDS.</td>
</tr>
</tbody>
</table>
7. Users may frequently use the same spot to inject, as an attempt to reduce their likelihood of detection.

   a. The veins may become hard and thick from continuous injections and makes them difficult to find.

   The technical term is "Thrombosed".

   Write Thrombosed on the dry erase board or flip-chart.

   b. After about 10 to 20 injections, a large sore forms causing the site to enlarge and bruise. Upon close examination, the site reveals there are numerous puncture wounds in the same area, overlapping each other.

   This is referred to as "tunnel" or "corn".

   Write tunnel and corn on the dry erase board or flip-chart.

   The healing is greatly retarded.

8. Basic principles of puncture healing.

   a. Any needle that punctures the skin leaves a scab. A scab is simply a crust formed by the drying of the discharge from the puncture.

   Scab is the dried remains of blood, plasma (a cellular, colorless fluid part of the blood), lymph fluid (a thin fluid that bathes all the tissues of the body) and puss (a thick yellowish/greenish fluid that forms at an injection site).

   b. These dried remains fill the gap caused by the puncture of the skin. As the fluids dry, they harden (clot and gel).

   Chronic disease, poor nutrition and etc. retard the puncture healing process.

   c. There are no exact timetables for wounds to heal, but there are some general guidelines.
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<th>Aids</th>
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<tr>
<td>d. Scabs develop within about 18 - 24 hours after a puncture.</td>
<td>A general rule: when the scab first forms, it is bright red. With age, the color gets darker and darker.</td>
<td>Users sometimes inject under a scab to hide multiple puncture wounds. This is referred to as &quot;trap dooring&quot;.</td>
</tr>
<tr>
<td>e. After about 14 days a scab usually starts to peel or flake and then falls off. The skin under the scab is shriveled and is lighter in color than the surrounding tissue.</td>
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<tr>
<td>9. There is no exact science to classifying the age of puncture wound. Some general guidelines are:</td>
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<tr>
<td>a. Fresh puncture wounds are defined as under 12 hours after injection and will be a red dot and have an oozing appearance or blood crater with no scab formation.</td>
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<tr>
<td>b. Early puncture wound is 12 - 96 hours (half day to 4 days) after injection. It will have a light scab, light bruise, reddened border and a crater appearance.</td>
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<tr>
<td>c. Late puncture wound is 5 - 14 days old and will have a dark scab, dark bruise and the crater will flatten.</td>
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<tr>
<td>d. Healing puncture wound is over 14 days. The scab will be flaking and falling off with shriveled light colored skin underneath.</td>
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<tr>
<td>10. Other indicators of injection sites:</td>
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<td>Instructor Notes</td>
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</tr>
<tr>
<td>a. In an attempt to hide puncture wounds, users may inject into tattoos.</td>
<td></td>
<td>Tattoos that are designed to hide puncture wounds are frequently colored and found on the inner arms.</td>
</tr>
<tr>
<td>b. Tattooing also refers to dark carbon deposits that result from using a flame to &quot;sterilize&quot; a needle. Carbon deposits on the needle are then injected into the skin, causing a tattoo effect.</td>
<td></td>
<td>AS A GENERAL RULE: one inch of tracks indicates that approximately 50 - 100 separate injections have been administered in this area.</td>
</tr>
<tr>
<td>c. A &quot;track&quot; is a hardened part of a vein where numerous injections have been administered. The entire vein becomes scarred and hardened and with time may no longer be able to inject into. The area becomes silvery-blue in color and raised. This is referred to as &quot;silver streaks&quot;.</td>
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**G. Expected Location of Injection Marks**

1. Prior to conducting the injection site examination, always remember to wear gloves.

2. Injection sites may be located anywhere on the subject’s body.
   a. The arms are most frequently used because the veins here are large and easily accessible.
   b. The ankles are frequently used because the marks can be easily covered with socks.
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c. The user may even use their neck because the marks can be hidden by hair or makeup.</td>
<td>Point out that “ski light” is short for schematic light.</td>
</tr>
<tr>
<td></td>
<td>d. They will basically use any part of their body where there is a vein.</td>
<td>An ideal light is a 10 power light.</td>
</tr>
<tr>
<td></td>
<td>3. Conduct a thorough, slow, methodical examination of the subject’s arms beginning with the left.</td>
<td>This forces the individual's veins to protrude.</td>
</tr>
<tr>
<td></td>
<td>a. Using a magnifying light or “ski light”, examine the inner arm as it is extended with the palm facing you.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Beginning at the bicep slowly examine the arm. Document the findings of your examination.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Ask the subject to contract the arm, grasping their shoulder. Starting at the wrist, slowly examine the arm to the elbow documenting the results.</td>
<td></td>
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<tr>
<td></td>
<td>d. Next examine the outer arm as it is extended palm facing downward. Start the examination at the shoulder moving to the wrist.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. Subject should extend and spread his/her fingers when examining the hands. Examine both sides of the hands, with particular attention to the areas between the fingers, under watch bands and rings.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plans</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>4. Conduct the entire procedure for the right side.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Ankles are the next most common injection area.</td>
<td></td>
<td>Suspects sometimes hide hypodermic needles in their socks, shoes and the heel compartments of their shoes.</td>
</tr>
<tr>
<td>a. Subject should be instructed to remove their shoes and socks to allow the DRE to examine them for puncture wounds.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. The most common area is on the back of the foot.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. On a case by case basis, the DRE may need to examine other parts of the body for marks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. ALWAYS follow your agencies rules, policies and procedures and laws regarding invasive type searches.</td>
<td></td>
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</tr>
</tbody>
</table>

**H. Conclusion**

1. The injection site examination may reveal evidence of recent use.  

2. The presence of marks however, doesn't mean drug influence or impairment at the time of the evaluation.  

3. A slow methodical examination, using a magnifying light, is required to obtain evidence.  

4. Conducting an injection mark examination is a skill. As with all skills, such as taking blood pressure, competency improves with practice.  

Point out that DREs may want to photograph new or recent injection marks for evidential purposes.  

Solicit students’ comments and questions concerning the injection site examination.
**Topics for Study**

1. What are the two subcategories of Narcotic Analgesics?

   **Natural Opiates and Synthetic Opiates**

2. What three distinguishing characteristics do all Narcotic Analgesics share?

   They relieve pain, they will produce withdrawal signs and symptoms, and their use will suppress the withdrawal signs and symptoms of chronic morphine administration.

3. Consider this situation:
   A heroin addict injects what is, for him, a "normal" dose of the drug. One hour later a DRE examines the addict and finds that he is not impaired.

   What is the most likely explanation for this?

   The addict has developed a tolerance and is using his/her “normal” dose of the drug.

4. What is another, more common, name for the drug called Diacetyl Morphine?

   **Heroin**

5. What is Thebaine?

   **Natural alkaloid of opium**

6. What is Percodan?

   **Derivative of Thebaine**

7. What is MPPP?

   Illegally manufactured synthetic analog of demerol

8. What is Oxycodone?

   A semi-synthetic narcotic prescribed for chronic or long-lasting pain.
Session XVII
Narcotic Analgesics

Narcotic Analgesics
Upon successfully completing this session the student will be able to:
- Explain a brief history of the Narcotic Analgesic category of drugs
- Identify common drug names and terms associated with this category
- Identify common methods of administration for this category
- Describe the symptoms, observable signs and other effects associated with this category

Narcotic Analgesics
(Continued)
- Describe the typical time parameters, i.e. onset and duration of effects associated with this category
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category
- Describe the procedures for examining and determining the ages of injection sites
- Correctly answer the “topics for study” questions at the end of this session

Narcotic Analgesic
An “Analgesic” is a drug that relieves pain. It differs from an anesthetic, in that it lowers one’s perception of pain, rather than stopping nerve transmission.

Types of Narcotic Analgesics
- Opiates
  - Natural alkaloids
  - Opium derivatives
- Synthetics

Three Characteristics Common to All Narcotic Analgesics
1. Relieve pain
2. Produce withdrawal signs and symptoms
3. Suppress the signs and symptoms of chronic morphine withdrawal
Commonly Used Opiates and Their Derivation From Opium

- Powdered Opium (Smoking Opium)
- Other Alkaloids
- Morphine
- Codeine
- Thebaine
- Dextropropoxyphene (Darvon)
- Hydrocodone (Lortab)
- Oxycodone (Oxycontin)

Common Synthetic Opiates

- Demerol
- Methadone
- Fentanyl
- MPPP
- Darvon

(Methadone Diskette)

The Concept of Tolerance for a Drug

1. The same dose of the drug will produce diminishing effects
2. A steadily larger dose is needed to produce the same effects

"On the Nod"

- Semiconscious
- Droopy eyelids (Ptosis)
- Head slumped forward, chin on chest
- Easily awakened
- Alert to questions

On-Set and Duration of Heroin’s Effects

- Immediate
  - Pleasure or euphoria
  - Relief from pain
  - Relief from withdrawal

On-Set and Duration of Heroin’s Effects (Continued)

- 5-30 minutes: Onset of physical effects
  - “On the nod”
  - Poor motor coordination
  - Depressed reflexes
  - Slowed breathing
On-set and Duration of Heroin’s Effects (Continued)

- Physical effects usually are observable for up to 4-6 hours

Signs and Symptoms of Withdrawal From Heroin

Symptoms normally begin: 4-6 hours following injection

- Aches
- Chills
- Insomnia
- Nausea

Signs and Symptoms of Withdrawal From Heroin (Continued)

Signs appear: 8-12 hours following injection

- Goose bumps
- Sweating
- Runny nose
- Tearing
- Vomiting
- Yawning
- Similar to influenza or the common cold
- Slight tremors
- Dilation of pupils
- Goosebumps
- Loss of appetite

Signs and Symptoms of Withdrawal From Heroin (Continued)

Situation worsens: 24 - 36 hours after injection

- Depression
- Diarrhea
- Hot and cold flashes
- Insomnia
- Vomiting
- Weakness
- Muscular and abdominal cramps
- Severe tremors and twitching
- Elevated temperature
- Sharp loss of weight

Reaching the peak: 2 - 3 days after injection
Evaluation of Subjects Under the Influence of Narcotic Analgesics

- HGN or Vertical Gaze Nystagmus - none
- Lack of convergence - none
- Performance on Romberg, Walk and Turn, One Leg Stand and Finger to Nose will be impaired and will reflect slow and deliberate movements

Vital Signs:
- Pulse - down
- Blood pressure - down
- Body temperature - down
- Muscle tone - normal or flaccid

Evaluation of Subjects Under the Influence of Narcotic Analgesics

Dark Room:
- Pupils - constricted (Miosis)
- Reaction to light - little or none visible
- As the effects of the drug wear off, hippus (pulsating pupils) may be evident

General Indicators:
- Constricted pupils (Miosis) - Flaccid muscle tone
- Depressed reflexes - Nausea
- Droopy eyelids (Ptosis) - On the nod
- Drowsiness - Puncture marks
- Dry mouth - Slow, low, raspy speech
- Euphoria - Slowed breathing
- Facial itching

Narcotic Analgesic Symptomatology Chart

<table>
<thead>
<tr>
<th>HGN</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGN</td>
<td>None</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td>None</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Constricted</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Little or None Visible</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Down</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Down</td>
</tr>
<tr>
<td>Temperature</td>
<td>Down</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Normal or Flaccid</td>
</tr>
</tbody>
</table>

Classifying the Age of Puncture Wounds

- Fresh - Under 12 hours after injection; will be a red dot and have an oozing appearance

- Early - 12-96 hours after injection; will have a light scab, light bruise, redened border and a crater appearance
Classifying the Age of Puncture Wounds

- Late - 5-14 days after injection: will have a dark scab, dark bruise and the crater will flatten

- Healing - Over 14 days after injection: scab will be flaking and falling off with shriveled light-colored skin underneath

QUESTIONS?
### Drug Influence Evaluation

**Evaluator:** Karl Nieberlein, Sparks P.D.

**DRE No:** 1176  
**Rolling Log No.:** 05-08-01  
**Session:** XVII - #1

**Date Examined/Time/Location:** 08-24-05, 1805 hrs, Washoe Co.

**Miranda Warning Given:** Yes  
**What have you eaten today?** Nothing

**By:** Ofc. Garmanwell  
**Drinking:** Dr Pepper

**Time Now:** About 7 pm
**Last night:** Right 4 hrs

**Are you under the care of a doctor or dentist?** No

**Attitude:** Cooperative, passive  
**Coordination:** Relaxed, slow, unstable

**Age:** 54  
**Height:** 72  
**Weight:** 160

**Are you taking any medication or drugs?** Yes  
**Medication:** Methadone

**Speech:** Low, raspy

**Pupils:** Equal

**Coordination:** Normal

**Pulse and Time:**
1. 56 / 1817
2. 58 / 1825
3. 58 / 1832

**Walk and Turn Test:**
- M - M - M - M - M - M
  - Slow, deliberate steps

**Internal Clock:**
- 44
  - Est. as 30 seconds

**Describe Turn:** Slow, Deliberate

**Room Light:** 2.0  
**Darkness:** 2.0

**Oral Cavity:** Clear

**Blood Pressure:** 110 / 64

**Temperature:** 98.0° F

**Muscle tone:** Near normal

**Status:** None

**Comment:**

**What medication or drug have you been using?** Just methadone, man!  
**How much?** The normal

**Date/Time of Arrest:** 08-24-05, 1720 hrs.

**Time DRE Begins:** 1745 hrs.

**EVALUATION START TIME:** 1805

**Time Completed:** 1900

**Opinion of evaluator:**
- Rule Out
- Medical
- Alcohol
- CNS Stimulant
- CNS Deprasserant
- Hallucinogen
- Narcotic Analgesic
- Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Vaughn, Gerald T.

1. **LOCATION:** The evaluation of Gerald Vaughn took place in the DRE room at the Washoe County Jail.

2. **WITNESSES:** Sergeant Mac Venzon of the Reno Police Department.

3. **BREATH ALCOHOL TEST:** The A/O, Officer Rich Gamwell of the Sparks Police Department administered a breath test to Vaughn with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted by radio and advised to contact Officer Gamwell at the Washoe County Jail for a drug evaluation. Officer Gamwell advised the suspect was operating a vehicle reported stolen earlier in the day by Reno PD. After stopping the suspect, Officer Gamwell noted that suspect’s speech was slow, slurred and raspy. His coordination was poor and he was licking his lips repeatedly. His pupils were constricted and he performed poorly on the SFST’s.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the DRE interview room at the Washoe County Jail. He appeared to be asleep. His eyes were closed, his head kept nodding forward and his breathing was slow. The suspect responded to questions and became more alert as time passed. His voice was raspy and his pupils appeared constricted. He was licking his lips and his movements were slow and deliberate.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 1” front to back and approximately 3” side to side. He estimated 30 seconds in 44 seconds. Walk & Turn: Suspect lost his balance during the instructions, missed heel to toe three times on the first nine steps and twice on the return. He also stepped off the line and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed and used his arms for balance. Finger to Nose: The suspect missed the end of his nose with five of the six attempts.

8. **CLINICAL INDICATORS:** Suspect’s pulse and blood pressure were below the normal range. His pupils were constricted with no visible reaction to light. His eyelids were droopy.

9. **SIGNS OF INGESTION:** Subject had scar tissue on both his left and right forearms and a fresh oozing puncture wound on the back his left hand. (Photographed).

10. **SUSPECT’S STATEMENTS:** Suspect admitted using Methadone earlier in the day.

11. **DRE’S OPINION:** In my opinion Vaughn is under the influence of a Narcotic Analgesic and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION

Evaluator: Sr. Tpr. Jim Pierce, OSP

Recover Witness: Sgt. Jeff Niiya, PPB

Anecdotal Name (Legal, First M): Burstein, David L

Date: 11/01/04

Cooperative

Breath: Normal

Coordination:

Face: Normal

Attitude:

Speedy: Slow & deliberate

Corrective lens: None

Glasses: No

Contacts, if so: No

Hard: No

Soft: No

Blood pressure: 100/60

Temperature: 97.0°F

Muscle tone: Near normal

Placid: ☑

Rigid: ☑

Comments: Arms & neck very relaxed

What medication or drug have you been using? How much? None

Type of use? Refused

Where were the drugs used? Location: Refused

Date/Time of Arrest: 11/01/04

Time TRF Notified: 4:00 PM

Evaluation Start Time: 4:15 PM

Time Completed: 5:20 PM

Opinion of Key Person:

Rate Out: ☑

Alcohol: ☑

CNS Stimulant: ☑

CNS Depressant: ☑

Hallucinogen: ☑

Narcotic Analgesic: ☑

Dissociative Anesthetic: ☑

Inhalant: ☑

Relax: ☑

Director: Tpr. Bob

Reviewer: Tpr. Bob

Session XVII - #2

Case #: 04-25250

DOA: M

Race: White

Arresting Officer (Name, ID No): Sgt. Jeff Niiya, PPB

Breath Test: Yes

Instrument #: 31260

Chemical Test: Refused

Unravel: Yes

Blood: Refused

What have you eaten today? Nothing

When? N/A

What have you been drinking? How much? Nothing

Time of last drink: N/A

Do you take insulin? No

Do you have any physical defects? No

Are you taking any medication or drugs? No

Are you sick or injured? No

Are you under the care of a doctor or dentist? No

HGN

Lack of smooth pursuit

Maximum deviation

Angle of onset

Left Eye: No

Right Eye: No

Vertical Nystagmus: Yes

Convergence: Right eye, Left eye

Eyes: Normal

Reddened Conjunctiva: No

Bloodshot: No

Watery: No

Pupil size: Equal

Pupil Miosis: No

Able to follow stimulus: Yes

Eyelids: Normal

Droopy: No

Walking:

Staggered

Tandem:

Staggered to the left

Cannot do test (explain): N/A

Internal clock:

Est. in 30 seconds

N/A

Describe Turn:

Last balance:

Staggered to the left

Draw lines to spots touched

Room Light: 1.5

Darkness: 1.5

Direct: 1.5

Rebound dilation: No

Reaction to light: None

Phaco area:

RIGHT ARM:

Puncture Wounds:

LEFT ARM:

Puncture Wounds:

Scab tissue:

8 red dots

3 red dots
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Bursten, David L.

1. **LOCATION:** The evaluation of David Bursten took place in the interview room at the Central Traffic Precinct of the Portland Police Bureau.

2. **WITNESSES:** The arresting officer, Sergeant. Jeff Niiya of the Portland Police Bureau witnessed and recorded the evaluation.

3. **BREATH ALCOHOL TEST:** Sergeant Niiya administered a breath test to Bursten using the Intoxilyzer 5000. The result was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted by dispatch and advised to contact Sgt. Niiya for a drug evaluation. Sgt. Niiya advised the suspect had failed to stop at a red light on N.E. Burnside and struck a pedestrian in the crosswalk. The pedestrian was transported to the hospital in serious condition. Sgt. Niiya noted that the suspect had slow and deliberate movements and his speech was slow, slurred and raspy. He was unable to perform the SFST’s as directed.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the Central Precinct. He was repeatedly scratching his face and neck. His head kept nodding forward and he appeared to be “on the nod.” His voice was raspy, his pupils appeared to be constricted and his eyelids were droopy.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 3” in a circular motion and he estimated 30 seconds in 58 seconds. Walk & Turn: Suspect lost his balance during the instructions, stopped while walking once on the first nine steps and twice on the return. He walked very slowly and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts.

8. **CLINICAL INDICATORS:** Suspect’s blood pressure and temperature were below the normal ranges. His pupils were constricted and showed no visible reaction to light.

9. **SIGNS OF INGESTION:** Suspect had scars on his right forearm and fresh oozing puncture wounds on the inside of his right arm. The puncture wounds were photographed.

10. **SUSPECT’S STATEMENTS:** The suspect refused to answer questions about drug use.

11. **DRE’S OPINION:** In my opinion Bursten is under the influence of a Narcotic Analgesic and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.
**DRUG INFLUENCE EVALUATION**

**Evaluator:**
Sgt. Tim Tomczak

**DRE No.:** 9/39

**Rolling Log No.:** 04-033

**Session XVII - #3**

**Reporting Witness:**
Eddie Buffalo

**Anyan's Name:**
Thomas

**DOB:** 5/16/66

**Sex:** M

**Case #:** 04-3125

**Date/Time/Location:**
3/11/04 2200 Raleigh PD

**Miranda Warning Given:** Yes [X] No

**What have you eaten today?**
Nothing

**When?**
Don't know

**What have you been drinking?**

**How much?**

**Time of last drink?**


**About 8 pm**
This morning, 7 hrs.

**Do you take insulin?** Yes [X]
No

**Do you have any physical defects?**
Yes [X]
No

**Are you sick or injured?**

**Are you diabetic or epileptic?**
Yes [X]
No

**Are you under the care of a doctor or dentist?**


**Attitude:**
Sarcastic

**Breath:**
Normal

**Coordination:**
Poor, stumbling, staggering

**Speech:**
Low, raspy

**Eye:**
Reddened Conjunctiva

**Hindness:**
None

**Eyes:**


**Corrective lens:**
None

**Glasses:**


**Pupil size:**
Equal

**Peripheral field:**
Equal

**Coordination:**


**Lack of smooth pursuit**

**Maximum deviation:**

**Angle of onset:**


**Romberg Balance:**


**Walk and Turn test:**


**Cannot keep balance:**


**Starts too soon:**


**L R**


**Sways while balancing**

**Uses arms to balance**

**Hopping**

**Puts foot down**

**Type of footwear:**


**N/A**

**Internal clock:**


**Describe Turn:**


**Draw lines to spots touched:**


**Pupil Size:**
Left
Right


**Room Light:**
Darkness
Bright


**Direct:**


**Hippus:**


**Rebound dilation:**


**Reaction to Light:**


**Blood pressure:**
110 / 70

**Temperature:**
99.1

**Muscle tone:**
Normal

**Comments:**

**What medication or drug have you been using?**

**How much?**

**Where were the drugs used?**


**DRI #**
999

**ID #:**
999

**Opinion of evaluator:**

**Rule out**

**Alcohol**

**CNS Stimulant**

**Disassociative Anesthetic**

**Inhalant**

**CNS Depressant**

**Hallucinogens**

**Narcotic Analgesic**

**Cannabis**
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Sheehan, Thomas

1. **LOCATION:** The evaluation of Thomas Sheehan took place in the interview room at the Raleigh Police Department.

2. **WITNESSES:** The A/O; Sgt. Brandon Craft of the North Carolina Highway Patrol recorded the evaluation. Mr. Eddie Buffalo, the N.C. DRE State Coordinator witnessed.

3. **BREATH ALCOHOL TEST:** Sheehan had a 0.00% breath test result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was notified by radio to contact Sergeant Craft for a drug evaluation. Sergeant Craft advised the suspect was observed drifting in and out of his traffic lane and driving 20 mph under the posted speed on Highway 64. Sergeant Craft noted the suspect had poor coordination and had slow and deliberate movements. His speech was slow and slurred. His pupils were constricted. He performed poorly on the SFST’s and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the Raleigh Police Department. He was sitting at the interview table scratching his face and appeared to be “on the nod.” His voice was low, slow and raspy. His pupils were constricted and his eyelids were droopy. He stated he was cold.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect swayed approximately 2” front to back and estimated 30 seconds in 55 seconds. Walk & Turn: Suspect lost his balance during the instructions, missed heel to toe, stopped walking and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts and used the incorrect order as directed.

8. **CLINICAL INDICATORS:** Suspect’s pulse and blood pressure were below the normal ranges. His pupils were constricted with no visible reaction to light.

9. **SIGNS OF INGESTION:** None evident.

10. **SUSPECT’S STATEMENTS:** The suspect denied drug use.

11. **DRE’S OPINION:** In my opinion Sheehan is under the influence of a Narcotic Analgesic and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.

13. **MISCELLANEOUS:** An empty bottle of OxyContin was located in the suspect’s vehicle.
SESSION XVIII

PRACTICE: TEST INTERPRETATION

Forty-Five Minutes
SESSION XVIII   PRACTICE: TEST INTERPRETATION

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

- Analyze the results of a complete drug influence evaluation and identify the category or categories of drugs affecting the individual examined.
- Articulate the bases for the drug category identification.

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<th>Content Segments</th>
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<td>o Instructor Led Demonstrations</td>
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<td>B. Interpretation Practice</td>
<td>o Small Group Practice</td>
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<td>o Participant Led Presentations</td>
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<td>Aids</td>
<td>Lesson Plan</td>
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<td></td>
<td>PRACTICE: TEST INTERPRETATION</td>
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<td></td>
<td>20 Minutes</td>
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<tr>
<td>XVIII-1</td>
<td>(Title)</td>
</tr>
<tr>
<td>XVIII-2</td>
<td>(Objectives)</td>
</tr>
</tbody>
</table>

**A. Interpretation Demonstrations**

1. **Case #1 "Subject Martinez"**
   - **a. Preliminary Examination.** Direct students to turn to the "Subject Martinez" exemplar in Section XVIII of their manual. Review the results of the preliminary examination of Subject Martinez. **Ask** students: "What category or categories of drugs would produce preliminary examination results consistent with this exemplar?" **Probe** to draw out the basis for students' responses.
   - **b. Eye Examinations.** Review the results of the eye examination of Subject Martinez.
<table>
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<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>c. Psychophysical Tests.</strong></td>
<td>Ask students to discuss the category or categories of drugs that would cause these eye examination results.</td>
</tr>
<tr>
<td></td>
<td>Review the results of the psychophysical tests of Subject Martinez.</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td><strong>d. Vital Signs Examinations.</strong></td>
<td>Ask students to discuss the category or categories of drugs that would produce these psychophysical tests results.</td>
</tr>
<tr>
<td></td>
<td>Review the results of the vital signs examinations of Subject Martinez.</td>
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</tr>
<tr>
<td></td>
<td><strong>e. Dark Room Examinations.</strong></td>
<td>Ask students to discuss the category or categories of drugs that would cause these results.</td>
</tr>
<tr>
<td></td>
<td>Review the results of the dark room examinations of Subject Martinez.</td>
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<tr>
<td></td>
<td><strong>f. Other evidence.</strong></td>
<td>Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Martinez.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ask students to comment on the category or categories of drugs that would be consistent with all of the evidence on this exemplar.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>g.</td>
<td>Opinions of Evaluator.</td>
<td>Point out that the evidence indicates that Subject Martinez is under the influence of a Dissociative Anesthetic (PCP). Solicit students' questions concerning this demonstration.</td>
</tr>
<tr>
<td>2.</td>
<td>Case #2: &quot;Subject Groves&quot;.</td>
<td>Direct students to review the &quot;Subject Groves&quot; exemplar.</td>
</tr>
<tr>
<td>a.</td>
<td>Preliminary Examination.</td>
<td>Review the results of the preliminary examination of Subject Groves. Ask students: &quot;What category or categories of drugs would produce preliminary examination results consistent with this exemplar?&quot; Probe to draw out the basis for students' response.</td>
</tr>
<tr>
<td>b.</td>
<td>Eye Examinations.</td>
<td>Review the results of the eye examinations of Subject Groves. Ask students to discuss the category or categories of drugs that would cause these eye examination results.</td>
</tr>
<tr>
<td>c.</td>
<td>Psychophysical Tests.</td>
<td>Review the results of the psychophysical tests of Subject Groves. Ask students to discuss the category or categories of drugs that would produce these psychophysical test results.</td>
</tr>
<tr>
<td>d.</td>
<td>Vital Signs Examinations</td>
<td>Review the results of the vital signs examinations of Subject Groves.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td></td>
<td>Ask students to discuss the category or categories of drugs that would produce these results.</td>
<td>e. Dark Room Examinations. Review the results of the dark room examinations of Subject Groves.</td>
</tr>
<tr>
<td></td>
<td>Ask students to discuss the category or categories of drugs that would produce these results.</td>
<td>f. Other evidence. Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Groves.</td>
</tr>
<tr>
<td></td>
<td>Ask students to comment on the category or categories of drugs that would be consistent with all of the evidence on this exemplar.</td>
<td>g. Opinions of Evaluator. Point out that the evidence indicates that Subject Groves is under the influence of a Narcotic Analgesic. Solicit students' questions concerning this demonstration.</td>
</tr>
<tr>
<td>B. Interpretation Practice</td>
<td>25 Minutes</td>
<td></td>
</tr>
<tr>
<td>1. Team practice</td>
<td>Assign students to work in teams of three or four members. Tell teams that they are to review four exemplars (Subjects Hatos, Jackson,</td>
<td></td>
</tr>
<tr>
<td><strong>Aids</strong></td>
<td><strong>Lesson Plan</strong></td>
<td><strong>Instructor Notes</strong></td>
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<tr>
<td></td>
<td></td>
<td>Stevens and Sholly). Team members are to discuss the evidence among themselves and reach a conclusion concerning the category or categories of drugs, if any. Teams will present their conclusions to the entire class.</td>
</tr>
<tr>
<td>a.</td>
<td>Review and discussion of exemplars by teams.</td>
<td>Allow teams approximately 15 minutes to review the three exemplars and reach their conclusions.</td>
</tr>
<tr>
<td>b.</td>
<td>Feedback of results.</td>
<td>Poll the teams to determine their conclusions concerning the category or categories of drugs present in each subject. Offer appropriate comments concerning the teams’ performance.</td>
</tr>
<tr>
<td>o</td>
<td>Subject Martinez</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>Subject Groves</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>Subject Hatos</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>Subject Jackson</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>Subject Stevens</td>
<td></td>
</tr>
<tr>
<td>o</td>
<td>Subject Sholly</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Session Wrap up.</td>
<td>Solicit students' comments and questions concerning this practice session.</td>
</tr>
</tbody>
</table>
**DRUG CATEGORIES FOR INTERPRETATION PRACTICE**

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CATEGORY(IES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martinez</td>
<td>Dissociative Anesthetic (PCP)</td>
</tr>
<tr>
<td>Groves</td>
<td>Narcotic Analgesic</td>
</tr>
<tr>
<td>Hatos</td>
<td>CNS Stimulant and ETOH</td>
</tr>
<tr>
<td>Jackson</td>
<td>Dissociative Anesthetic and Narcotic Analgesic</td>
</tr>
<tr>
<td>Stevens</td>
<td>Dissociative Anesthetic and CNS Depressant</td>
</tr>
<tr>
<td>Sholly</td>
<td>Medical rule out</td>
</tr>
</tbody>
</table>
Session XVIII

Practice: Test Interpretation

Practice: Test Interpretation

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

- Analyze the results of a complete drug influence evaluation and identify the category or categories of drugs affecting the individual examined
- Articulate the bases for the drug category identification

QUESTIONS?
DRUG INFLUENCE EVALUATION

Prescriber: Sgt. Dan Harase
DRE No. 1767

Rolling Log No. 04-17-33

Session xviii - 1 - #1

Date of Test: 2/18/04

Time of Test: 2300

Central Intake

Miracle Warning Given: Yes No

What have you eaten today? Nothing

What have you been drinking? How much? Nothing

Time of last drink?

Age: 32

Height: 6' 0"

Weight: 134 lbs

Diet: Regular

Sawyer Drug Test: Negative

Drug of Choice: None

Alcohol of Choice: None

The patient seems to be:

Unsteady, Staggering

Chemical odor

Blank stare

Speech: Slow, Slurred

Eye:

Reddened Constricted

Normal

Bloodshot

Watery

Left Eye

Right Eye

Equal

Unequal

Able to follow commands:

Yes

No

Pupils:

Equal

Unequal

Able to follow commands:

Yes

No

Coordination:

No answer

Reflexes:

Glosses

Contacts, if so

Hard

Soft

(explain)

Pulse and time

110/26

2.08

2.05

2.06

RGN

Lack of smooth pursuit

Maximum deviation

Angle of onset

Rompberg Balance

"Moonwalking Legs spread, Rigid"

Walk and Turn test

"Steps walking"

"Sways while balancing"

"Uses arms to balance"

"Hopping"

"Ruts foot down"

Type of footwear:

Athletic Shoes

Cannot do test (explain)

N/A

Pupil Size

Right

6.0

6.0

Direct

Reflexes:

Yes

No

Reactions to Light:

Normal

RIGHT ARM

LEFT ARM

Blood pressure

140/90

99.4°F

Heart rate

110

Muscle tone:

Near normal

Tense

Rigid

Common: Arms & Legs

What medication or drug have you been using? How much?

N/A

Time of use?

No answer

When was the drug used (location)

No answer

Draw lines to spots touched

0

1

2

3

4

5

(Rigid movements)

Nasal area:

Clear

Oral cavity:

Clear

Time Completed

01:06 17/40

ID # 292

Review Dr. John Harase, M.D.

Opinion of evaluator:

Role: Osteopathic

Alcohol: None

CNS Stimulant: None

Dissociative Anesthetic: None

Narcotic Analgesic: None

Medical

CNS Depressant: None

Hallucinogen: None

Cannabis: None
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Martinez, Juan M.

1. LOCATION: The evaluation of Juan Martinez was conducted at Central Intake at the Minneapolis Police Department.

2. WITNESSES: Lt. Doug Thooff of the Minnesota S.P. recorded the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Sergeant Bryan Schafer of the Minneapolis Police Department administered a breath test to Martinez with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted and requested to contact Sgt. Schafer at the Intake Center for a drug evaluation. Sergeant Schafer advised he had observed the suspect on the West River Parkway drifting over the lane divider line nearly hitting other vehicles. When stopped, the suspect appeared dazed and confused. He had a blank stare and was non-responsive at times. He did poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the Intake Center. He appeared dazed and disoriented. He had a fixed, blank stare and responded very slowly to questions. His speech was slow and slurred.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” side to side and estimated 30 seconds in 33 seconds. Walk & Turn: Suspect lost his balance twice during the instructions, stopped walking twice and used his arms for balance. One Leg Stand: Suspect put his foot down twice while standing on his left foot and nearly fell while attempting to stand on his right and the test was stopped. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts and his arm movements were very rigid.

8. CLINICAL INDICATORS: Suspect exhibited an early onset of Nystagmus. Vertical Gaze Nystagmus and Lack of Convergence were also present. The suspect’s pulse was above the normal range.

9. SIGNS OF INGESTION: There was a strong chemical odor on the suspect’s breath.

10. SUSPECT’S STATEMENTS: The suspect did not respond to questions about drug use.

11. DRE’S OPINION: In my opinion Martinez is under the influence of a Dissociative Anesthetic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: A glass vial with an unknown liquid was found on the suspect.
# Drug Influence Evaluation

**Evaluator:** Spec. Sam Ketchum, ISP  
**DRD No.:** 1323  
**Rolling Log No.:** 07-22  
**Session XVIII-I-#2**

**Date Evaluated:** 10/9/04  
**Time Evaluated:** 0800  
**Location:** Ada Co. Jail  
**Breath Results:** Refused  
**Chemical Test:** Urine Blood

**Witness:** Sgt. Dean Hatlock, ISP  
**Assessor:** Groves, Robert G.  
**DOB:** 8-10-77  
**Race:** W  
**Anesthesiologist:** Dr. Dave Cavanaugh, B.P.D.

**Witness:** Miranda Waring  
**DOB:** 01/01/70  
**Race:** W  
**Anesthesiologist:** Dr. Cavanaugh

**Time Now?**  
**About Midnight**  
**Last night 4 hrs.**

**Are you taking any medications or drugs?** Yes No  
**Do you have any physical defects?** Yes No  
**Are you under the care of a doctor or dentist?** Yes No

**Attitude:** Cooperative  
**Combination:** Poor, Wobbly, Stumbling

**Speech:** Slow, Mumbling

**Corneal Reflexes:** None  
**Lack of smooth pursuit:** Maximum deviation  
**Angle of onset:**

**Romberg Balance:**

**Internal Clock Test:** Est. 30 seconds

**Describe Turn:** Lost balance, staggered to right

**Pupil Size:**  
**Room Light:** 2.0  
**Darkness:** 2.0  
**Direct Reaction:** Yes No  
**Hips:** Yes No  
**Reaction to Light:** None  

**Blood Pressure:** 100/64  
**Temperature:** 728°F

**What medication or drug have you been using?** A couple of pills for my back

**Time of use?**  
**Where were the drugs used?** Jail

**Date Time DRE Notified:** 10/5/04  
**Time DRE Notified:** 0056  
**Evaluation Start Time:** 0100  
**Time Completed:** 0105

**Opinion of Evaluator:**
- [ ] Rule Out
- [ ] Medical
- [ ] Alcohol
- [ ] CNS Depressant
- [ ] CNS Stimulant
- [ ] Hallucinogen
- [ ] Dissociative Anesthetic
- [ ] Inhalant
- [ ] Narcotic Analgesic
- [ ] Cannabis

---

**Evaluating Officer:**

**ID #:** 1323

---

**Witness:** Groves, Robert G.
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Groves, Robert G.

1. LOCATION: The evaluation was conducted at the Ada County Jail Intake Center.

2. WITNESSES: Officer Dave Cavanaugh of the Boise Police Department witnessed the evaluation. DRE State Coordinator, Sergeant Dean Matlock of the Idaho State Police recorded the evaluation.

3. BREATH ALCOHOL TEST: Officer Cavanaugh administered a breath test to Groves with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted and requested to contact Officer Cavanaugh at the Intake Center for a drug evaluation. Officer Cavanaugh advised that he had observed the suspect’s vehicle drifting over the center line and traveling 15 mph under the posted speed zone on W. Overland Road. When stopped, the suspect had slow and slurred speech. His balance and coordination was poor and he did poorly on the SFST’s and was arrested for DUI. He admitted to taking a “couple pain pills” for his back.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the Intake Center. He appeared sleepy and his head was nodding forward. His speech was slow and slurred. When he stood, his balance was poor and he staggered when he walked.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect stated he was taking pain medicine for a back injury he suffered about five years ago.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” in a circular sway and estimated 30 seconds in 53 seconds. Walk & Turn: Suspect lost his balance twice during the instructions, missed heel to toe three times and used his arms for balance. One Leg Stand: Suspect put his foot down twice while standing on each foot and counted slowly. Finger to Nose: Suspect missed the tip of his nose on all six attempts and had slow arm movements.

8. CLINICAL INDICATORS: The suspect’s pulse was at the low end of normal and his blood pressure was below the normal range. His pupils were constricted.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT’S STATEMENTS: Suspect admitted taking a “couple pain pills” with dinner.

11. DRE’S OPINION: In my opinion Groves is under the influence of a Narcotic Analgesic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.
**DRUG INFLUENCE EVALUATION**

**Evaluator:** Dpty. Greg Nottingham  
**DRE No.:** 7623  
**Rolling Log No.:** 2084-99  
**Session:** XVIII-1 #3  
**Case #:** 045699

**Accident Details:**  
- **Date:** 11/13/76  
- **Time:** 7:13 PM  
- **Location:** Tempe, Arizona  
- **Driver:** Motos, Carlos  
- **Registrar:** Dan Mulleneaux  
- **Witness:**  
- **Breath Test:**  
  - **Result:** 0.04%  
  - **Chemical Test:** Blood  
  - **Result:** Released  
  - **Time:** 7:42 PM  
- **Time of Incident:** 11/13/76  
- **Time of Last Drink:** 8 PM  
- **Time of Arrest:** 11/14/76  
- **Arresting Officer:** Toland, Jim

**Disorder Details:**  
- **Physiological Response:**  
  - **Alcohol:** None  
  - **Narcotic Analgesic:** None  
  - **Sedation:** None  
  - **Paralytic:** None  
  - **Pain:** None  
  - **Injury:** None  
  - **Medical:** None

** Administrator Details:**  
- **Type:** Drug Influence Evaluation  
- **Evaluator:** Dpty. Greg Nottingham  
- **Certificate No.:** 10/30/07  
- **Session:** XVIII-1 #3  
- **Case #:** 045699

**Observations:**  
- **Lack of smooth pursuit:**  
  - **Angle of onset:**  
  - **Maximum deviation:**  
  - **Left Eye:** Yes  
  - **Right Eye:** No

**Turn Test:**  
- **As instructed:**  
  - **Cannot do test:** (explain)

**Muscle Tone:**  
- **Near normal:** Yes  
- **Rigid:** No  
- **Brisk:** Yes  
- **Flaccid:** No

**Hippus:**  
- **Rebound:** Clear

**Blood Pressure:**  
- **Systolic:** 140/100  
- **Diastolic:** 72.2

**Pupil Size:**  
- **Right:** 3.00  
- **Left:** 3.00

**Oral Cavity:**  
- **Clear

**Reaction to Light:**  
- **5/100

**Opinion of Evaluator:**  
- **Rating:** Normal  
- **Is Opiate:** No  
- **Is Alcohol:** No

**Blood Alcohol Content:**  
- **Result:** 0.04%  
- **Chemical Test:** Blood

**Time of Incident:** 11/13/76  
**Time of Last Drink:** 8 PM  
**Time of Arrest:** 11/14/76  
**Time of Completion:** 2:46 PM  
**Reviewed by:** Dpty. Greg Nottingham

---

**Summary:**

- The driver was tested for drug influence at the scene of an accident.
- The breath test result was 0.04%, indicating no alcohol influence.
- The driver was released from the chemical test with a clear oral cavity.
- No medical or psychiatric issues were noted.
- The evaluation concluded with a normal result.

---

**Additional Comments:**

- The driver was cooperative during the evaluation.
- There were no signs of slurred speech or unsteady gait.
- The driver was able to follow commands and was alert.

---

**Signature:**

Dpty. Greg Nottingham

---

**Document Details:**

- **Page:** 7623  
- **Date:** 11/13/76  
- **Time:** 7:13 PM  
- **Location:** Tempe, Arizona  
- **Driver:** Motos, Carlos  
- **Registrar:** Dan Mulleneaux  
- **Witness:**  
- **Breath Test:**  
  - **Result:** 0.04%  
  - **Chemical Test:** Blood  
  - **Result:** Released  
  - **Time:** 7:42 PM  
- **Time of Incident:** 11/13/76  
- **Time of Last Drink:** 8 PM  
- **Time of Arrest:** 11/14/76  
- **Arresting Officer:** Toland, Jim  
- **Case #:** 045699

---

**Additional Observations:**

- The driver was cooperative during the evaluation.
- There were no signs of slurred speech or unsteady gait.
- The driver was able to follow commands and was alert.

---

**Conclusion:**

The driver was released from the scene with no signs of impairment.

---

**Signatures:**

Dpty. Greg Nottingham

---

**Notes:**

- The driver was cooperative during the evaluation.
- There were no signs of slurred speech or unsteady gait.
- The driver was able to follow commands and was alert.

---

**Document Verification:**

- All relevant details were recorded and verified by the evaluator.
- The document is complete and accurate.

---

**Date of Creation:**

11/13/76
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Hatos, Carlos

1. LOCATION: The evaluation of Carlos Hatos was conducted the DRE room at the Maricopa County Jail.

2. WITNESSES: Dan Mulleneaux, the State DRE Coordinator witnessed the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Officer Jim Toland of the Phoenix Police Department administered a breath test to Hatos with a 0.04% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted and requested to Meet Officer Toland at Maricopa County Jail for a drug evaluation. Officer Toland advised he had observed the suspect’s vehicle traveling at a high rate of speed on East Camelback Road. When stopped, the suspect appeared nervous and was very talkative. The suspect did poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the DRE interview room at the Maricopa County Jail. The suspect was very talkative, repeatedly shifted his weight from foot to foot and was making abrupt hand movements. When not speaking, he appeared to be grinding his teeth. There was an odor of alcoholic beverage on the suspect’s breath.

6. MEDICAL PROBLEMS AND TREATMENT: None noted and none stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” side to side and estimated 30 seconds in 20 seconds. Walk & Turn: Suspect lost his balance during the instructions, stopped twice while walking and used his arms for balance. One Leg Stand: Suspect put his foot down once while standing on his right foot, swayed while balancing and used his arms for balance. Finger to Nose: Suspect missed the tip of his nose on all six attempts and performed attempt #5 and #6 with the wrong finger.

8. CLINICAL INDICATORS: The suspect had a lack of smooth pursuit and a lack of convergence. His pulse and blood pressure were above the normal ranges. His pupils were dilated and he had a slow reaction to light.

9. SIGNS OF INGESTION: None were evident.

10. SUSPECT’S STATEMENTS: Suspect admitted drinking a glass of wine but denied using any other drugs.

11. DRE’S OPINION: In my opinion Hatos is under the influence of Alcohol (ETOH) and a CNS Stimulant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.
DRUG INFLUENCE EVALUATION

Evaluator: OFC. Virgil Miller, Wichita
DRE No.: 10828
Rolling Log No.: 05-035
Session XVIII - 1 - #4

Auricular M. Scott M. DOB: 7-15-75
Sex: M
Race: W
Annotating Officer: Tr. Mark Crump, K. H.

Date Examined/Time/Location:
3/18/05 2000 hrs. Sedgwick

Breath Test: Yes
Drugs: No

Confusion:
Agitation: No
Speech: Slow, Loud, Rasy

Blood Pressure: 130/90
Temperature: 98.7°F

Pupils:
Left: Yes
Right: Yes

Convergence:
Right Eye: Yes
Left Eye: Yes

Romberg Balance:
3" N. Nine 7" N. Nine

Walk and Turn Test:
Cannot do test (explain) N/A

Blood Clot:

Oral Cavity:

Right Arm:
Puncture wounds with scab

Left Arm:
Scar tissue

Reaction to Light:
None visible

Date of Arrest:
3/18/05
Time DRE Notified:
2010 hrs.

Evaluation Start Time:
2030 hrs.
Time Completed:
2125

Opinion of evaluator:
No rule out
No alcohol
No Medical
No CNS Depressant
No Hallucinogen
No Dissociative Anesthetic
No Habitual
No Narcotic Analgesic
No Cannabis

Additional Information:

What medication or drug have you been using? N/A
How much? N/A
Time of use? N/A
Where were the drugs taken? (location) N/A

Date of Arrest:
3/18/05
Time Notified:
2010 hrs.

DRE Reviewer:
M. Scott M. ID # 10828

Opinion of evaluator:
No rule out
No alcohol
No Medical
No CNS Depressant
No Hallucinogen
No Dissociative Anesthetic
No Habitual
No Narcotic Analgesic
No Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Jackson, Scott M.

1. LOCATION: Evaluation was conducted in the interview room at the Sedgwick Co. Jail.

2. WITNESSES: Detective Karrina Brassier, a DRE with the Sedgwick County S.O. witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Master Trooper Mark Crump of the Kansas Highway Patrol administered a breath test to Jackson with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted and requested to contact M/Tpr. Crump at the Sedgwick County Jail for a drug evaluation. M/Tpr. Crump advised he located the suspect’s vehicle traveling E/B on Highway 54 near the Garden Plain exit. The suspect was traveling at approximately 45 mph and drifting in and out of his lane. When M/Tpr. Crump tried to stop the suspect, he continued on for over a mile before stopping. The suspect had a blank stare and his speech was thick and slow. The suspect did poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the jail. He was cooperative and had slow, thick, raspy speech. He was slow to respond to questions and was very unstable on his feet.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 3” side to side and he estimated 30 seconds in 50 seconds. Walk & Turn: Suspect lost his balance during the instructions, stepped off the line, missed heel, stopped while walking and used his arms for balance. He also made an improper turn. One Leg Stand: Suspect put his foot down three times while standing on the left foot. After putting his foot down four times while standing on the right, the test was stopped. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts.

8. CLINICAL INDICATORS: Suspect had six clues of Nystagmus and VGN. He also had a lack of convergence. His pulse rates were above the normal range.

9. SIGNS OF INGESTION: The suspect had a fresh, oozing puncture mark on his right forearm.

10. SUSPECT’S STATEMENTS: Suspect denied using drugs.

11. DRE’S OPINION: In my opinion Jackson is under the influence of a Dissociative Anesthetic and a Narcotic Analgesic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.
**Drug Influence Evaluation**

**Condutor:** Sgt. Paul Kotter, Utah H.P.
**DRE No.:** 10242
**Rolling Log No.:** 05-01-02
**Session XVIII-I-#5**

**Date & Time:** 9/14/84
**Area:** SALT LAKE CITY

**Time:** 8 pm
**Last night:** 2 hrs

**Are you using any medication or drugs?** [ ] Yes [ ] No
**Valium – 2 each day**

**Attitude:** Cooperative
**Eyes:** Chemical odor

**Coordination:** Poor, staggering
**Paper:** Normal, Blank Stare

**Speech:** Thick, slurred, slow to respond

**Pulse and time:** 92, 92, 92
**Maximum deviation:** 92
**Angle of onset:**

**Ramsey Balance:**
- Left Eye: Yes
- Right Eye: Yes

**One Leg Stand:**
- Right eye: Yes
- Left eye: Yes

**Internal Clock:**
- Est. as 90 seconds

**Walk and Turn Test:**
- Had to repeat instructions
- Turned backwards

**Path and time:** 1.92, 2.92, 3.92
**Lack of smooth pursuit:**
**Maximum deviation:**

**Vertical Nystagmus:** [ ] Yes [ ] No
**Convergence:**

**Cannot keep balance:**

**Finger to Nose:**
- Clear

**Nasal area:**
- Clear

**Draw lines to spots touched:**

**Rigid Arm Movements:**
- [ ] Yes [ ] No

**Blood pressure:** 144/90
**Temperature:** 99.0°F

**4c:** 4c
**Muscle tone:** [ ] Near normal [ ] Flaccid [ ] Rigid

**Conclusions:**

**What medication or drug have you been using?**
- Just my pills
- 2 a day

**Time of use:** 10 am
**Where was the drug used?** (location)
- At home

**Evaluation Start Time:** 2:00 pm
**Time Completed:** 2:15 pm

**Opinion of evaluator:**
- [ ] Rate Test
- [ ] Alcohol
- [ ] CNS Stimulant
- [ ] Diminished Level of Alertness
- [ ] Narcotic Analgesic
- [ ] Medical
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Stevens, William A.

1. LOCATION: The evaluation of William Stevens was conducted in the interview room at the Salt Lake City Police Department.

2. WITNESSES: Officer Jody Whittaker, a DRE with the Salt Lake City Police Department witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Officer John Beener of the Salt Lake City Police Department administered a breath test to Stevens with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was on duty and requested to contact Officer Beener at the Salt Lake City Police Department for a drug evaluation. Officer Beener advised he had located the suspect’s vehicle stopped in the intersection at California and S. 900th. He contacted the suspect who sitting in the driver’s seat. He had a blank stare and his speech was thick and slow. The suspect appeared confused and disoriented. He did poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the P.D. The suspect was cooperative and had slow, thick, slurred speech. He was slow to respond to questions. His balance was poor and he staggered when walking.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect indicated that he was seeing a doctor for stress.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 2" in a circular motion and he estimated 30 seconds in 46 seconds. Walk & Turn: Suspect lost his balance twice during the instructions, stepped off the line twice, missed heel to toe three times and used his arms for balance. He also made an improper turn, turning backwards. One Leg Stand: Suspect put his foot down twice on each attempt, swayed while balancing and used his arms for balance. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts. His arm movements were slow and rigid.

8. CLINICAL INDICATORS: Suspect had six clues of Nystagmus and a Lack of Convergence. His pulse and blood pressure were above the normal ranges.

9. SIGNS OF INGESTION: The suspect had a chemical-like odor on his breath.

10. SUSPECT’S STATEMENTS: Suspect admitted taking two (2) Valium earlier in the day.

11. DRE’S OPINION: In my opinion Stevens is under the influence of a Dissociative Anesthetic and a CNS Depressant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.
**DRUG INFLUENCE EVALUATION**

**Evaluator:** Danny Lamm, CHP  
**DRE No.:** 0726  
**Rolling Log No.:** 04-06-25  
**Session:** XVIII - I - 46

**Record/Witness:** Vaughn Gates, CHP  
**Arresting Officer:** Tom Flahaven, CHP  
**Date/Time of Arrest:** 6/10/04, 12:45

**Influence Evaluation:**

- **What medication or drug have you been using?** Tylenol  
- **How much?** Just two Tylenol!  
- **When did you last use?** About 2 days ago  
- **How long?** Not sure

**Physical Examination:**

- **Coordination:** O.K., shaky
- **Pupils:** Normal
- **Convergence:** Right eye and Left eye

**Neurological Examination:**

- **Romberg Balance:** Blood work  
- **Internal Clock:** 15 seconds

**Neurological Function:**

- **Blood pressure:** 100/70  
- **Temperature:** 39.5° C

**Observations:**

- **Muscle Tone:** Clear  
- **Reaction to Light:** Clear

**Opinion:**

- **Rule Out:** Alcohol, Medical, CNS Depressant, Hallucinogen, Narcotic Analgesic, Cannabis

**Additional Notes:**

- **Time of Last Drink:** NA
- **NA**

---

**Drug Influence Summary:**

**DRE Score:**

- **Chemical Test:** Refused
- **Breath Result:** Refused
- **Blood:** Refused

---

**Handwritten Notes:**

- "I took some Tylenol this morning.
- "This is impossible, I stepped by time and would not continue."
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Sholly, Cameron H.

1. LOCATION: The evaluation of Cameron Sholly was conducted in the interview room at the Sacramento County Jail.

2. WITNESSES: Officer Vaughn Gates, a DRE Instructor with the California Highway Patrol witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: Officer Tom Flahaven of the C.H.P. administered a breath test to Sholly with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was on-duty and requested to meet Officer Flahaven at the Sacramento County Jail for a drug evaluation. According to Officer Flahaven, Sholly was a driver involved in a fatal crash on I-5 north of Sacramento. His vehicle struck a stopped vehicle from behind at a construction site. Sholly was acting very strange at the scene and was slow to respond to questions. His speech was slow and slurred at times and he was unstable on his feet.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed Sholly in the interview room at the jail. He was cooperative and appeared stable. He was slow to respond to questions and he slurred his speech at times. He seemed confused and anxious.

6. MEDICAL PROBLEMS AND TREATMENT: Sholly was slow to respond when asked about medical problems and/or medical treatment. He eventually stated, “I don’t go to the doctor.”

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Sholly exhibited no sway and he estimated 30 seconds in 15 seconds. Walk & Turn: Sholly refused to do the test stating “This is impossible!” One Leg Stand: Sholly put his foot down one time while standing on each foot and swayed while balancing. Finger to Nose: Sholly missed the tip of his nose on all three attempts with the left hand and touched the end of his nose as directed with all three right hand attempts.

8. CLINICAL INDICATORS: Sholly’s pulse and systolic blood pressure were above the normal range. His pupils were unequal in all three lighting levels.

9. SIGNS OF INGESTION: None were evident or stated.

10. SUSPECT’S STATEMENTS: Sholly admitted taking Tylenol only.

11. DRE’S OPINION: In my opinion Sholly is not under the influence and is a medical rule out.

12. TOXICOLOGICAL SAMPLE: Sholly provided a blood sample.
SESSION XIX

INHALANTS
SESSION XIX  INHALANTS

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

- Explain a brief history of the Inhalant category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe the typical time parameters, i.e. onset and duration of effects associated with this category.
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category.
- Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overview of the Category</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects</td>
<td>o Review of Drug Evaluation and Classification Exemplars</td>
</tr>
<tr>
<td>C. Onset and Duration of Effects</td>
<td>o Reading Assignments</td>
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<tr>
<td>D. Overdose Signs and Symptoms</td>
<td>o Video Presentations (If Available)</td>
</tr>
<tr>
<td>E. Expected Results of the Evaluation</td>
<td>o Slide Presentations</td>
</tr>
</tbody>
</table>
## A. Overview of the Category

1. Inhalants are breathable chemicals that produce mind altering results.
   
   a. Inhalants vary widely in terms of the chemicals involved and the specific effects produced.

   b. Depending on the nature of the particular Inhalant, the effects produced may be similar to those of CNS Stimulants, Depressants or Hallucinogens.

2. There are three major subcategories of Inhalants.
   
   a. Volatile Solvents
   b. Aerosols
   c. Anesthetic gases

**INSTRUCTOR NOTES:** Inhalants are sometimes called "Deliriants," in that they may produce delirium. Delirium is usually a brief state characterized by incoherent excitement, confused speech, restlessness and possible hallucinations.
3. The **Volatile Solvents** include a large number of readily available substances, none of which are intended by their manufacturers to be used as drugs.

"Volatile" means that they evaporate easily to produce fumes.

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIX-4A&amp;B (Volatile Solvents)</td>
<td>a. One widely abused Volatile Solvent is plastic cement, or &quot;model airplane glue&quot;.</td>
<td>Ask students to name a Volatile Solvent that often is abused as a drug.</td>
</tr>
<tr>
<td></td>
<td>b. Plastic cement includes the following volatile chemicals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Toluene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Acetone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Naphtha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Aliphatic Acetates (straight-chained hydrocarbons)</td>
<td>Contains Naphtha</td>
</tr>
<tr>
<td></td>
<td>o Hexane</td>
<td>Rubber Cements contain Benzene</td>
</tr>
<tr>
<td></td>
<td>o Cyclohexane</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Benzene</td>
<td>Contains Acetone</td>
</tr>
<tr>
<td></td>
<td>c. Other frequently abused Volatile Solvents include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Gasoline</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Kerosene</td>
<td></td>
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<tr>
<td></td>
<td>o lighter fluid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o household cements and glues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o fingernail polish remover</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o paint thinners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o engine degreasers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o typewriter correction fluid (liquid paper)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o paints (particularly oil or solvent based)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o dry cleaning fluids</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o spray paints</td>
<td></td>
</tr>
</tbody>
</table>
4. **Aerosols** are chemicals discharged from a pressurized container by the propellant force of a compressed gas.

   a. Commonly abused Aerosols include hair sprays, deodorants, insecticides, glass chillers and vegetable frying pan lubricants.

   b. All of these abused Aerosols contain various hydrocarbon gases that produce drug effects.

5. The overwhelming majority of abusers of Volatile Solvents and Aerosols are pre-teens and teenagers.

   a. Male Inhalant abusers outnumber females

6. The third subcategory, **Anesthetic gases**.

   a. Anesthetic gases are drugs that abolish pain.

   b. They are used medically during surgical procedures such as childbirth, dental surgery, etc.

   c. Anesthetic gases that sometimes are abused as Inhalants:

      - Ether

Older stocks contain Trichlorethylene.

E.g., Freon, which is now available primarily in many medical Aerosols.

If available, display slides of typically abused Aerosols.

Some reasons: These substances appear in nearly every household. They are inexpensive and readily accessible.

Adults may be more frequent users of the anesthetic gases subcategory than of the Aerosols or Volatile Solvents.

Many of these substances have a long history of medical use and illicit use, e.g., Ether abuse dates to the 1790's in England.
o Nitrous Oxide

Nitrous oxide has been used since 1845. It is still used in certain dental procedures.

Nitrous Oxide is a propellant for whipped cream. Drug paraphernalia stores often sell Nitrous Oxide in cartridges that are identical to carbon dioxide containers. They are termed by users "whippets", and are allegedly sold to purchasers as devices to propel whipped cream.

d. Other common Inhalants in this subcategory that do not relieve pain are:

- Amyl Nitrite
- Butyl Nitrite
- Isobutyl nitrite and Butyl nitrite have essentially identical effects to Amyl nitrite.

Nitrites are vasodilating substances used medically to relieve angina pectoris (heart-related chest pains) and for treatment of cyanide poisoning. In angina, the nitrites work by dilating blood vessels near the heart so that more blood can reach the heart. Nitroglycerin, ordinarily not abused as an intoxicant, is also used for this purpose.

Anesthetic gases usually cause blood pressure to become lower than normal. This is due to the fact that the anesthetic gases restrict the pumping action of the heart.

Common slang and brand names for the nitrites are: "Rush" and "Locker Room".

7. Inhalants obviously are ingested by breathing, or inhaling, their fumes.

a. Some are ingested directly from the source.

Examples: Amyl Nitrite and Butyl Nitrite are sold in small glass bottles or bulbs. The user
simply opens the bottle and breathes in the fumes. They have been marketed in drug paraphernalia stores as room deodorizers.

b. Some are soaked into rags, handkerchiefs or tissue papers for repeated inhalation.

c. Some are placed in paper or plastic bags which the user places over the face or head. These may be placed in twist lock beverage containers.

d. Some are used by breathing the fumes or vapors from balloons.

e. Some common street names that Inhalant users use are: huffing, hacking, ballooning, and glading.

B. Possible Effects

1. The effects of Inhalants vary somewhat from one substance to another.

2. Common effects of Inhalants include:
   a. Altered shapes and colors.
   b. Antagonistic behavior.
   c. Bizarre thoughts.
   d. Distorted perceptions of time and distance.

In fact, many of the Inhalants are classified as Depressants in medical texts. Their effects, consequently, often mirror Alcohol intoxication.

Solicit students' comments or questions concerning this overview of Inhalants.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>e. Dizziness and numbness.</td>
<td></td>
</tr>
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<td></td>
<td>f. Drowsiness and weakness.</td>
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<tr>
<td></td>
<td>g. Euphoria and grandiosity.</td>
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</tr>
<tr>
<td></td>
<td>h. Floating sensations.</td>
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</tr>
<tr>
<td></td>
<td>i. Inebriation similar to alcohol intoxication.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>j. Intense headaches.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>k. Light headedness.</td>
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<tr>
<td></td>
<td>l. Nausea and excessive salivation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>m. Possible hallucinations.</td>
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</tr>
<tr>
<td></td>
<td>3. Persons under the influence of Inhalants generally will appear confused and disoriented, and their speech will be slurred.</td>
<td>Solicit students' questions and comments concerning possible effects of Inhalants.</td>
</tr>
<tr>
<td></td>
<td>C. <strong>On-Set and Duration of Effects</strong></td>
<td>Point out that the route of passage of the drugs from lungs to brain can be traveled very quickly.</td>
</tr>
<tr>
<td>5 Minutes</td>
<td>1. Inhalants' effects are felt virtually immediately.</td>
<td></td>
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<tr>
<td></td>
<td>2. Duration very much depends on the particular substance.</td>
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</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>------</td>
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</tr>
<tr>
<td>a.</td>
<td>The effects of nitrous oxide last 5 minutes or less.</td>
<td>Inhalation of these produces a distinct &quot;rush&quot; similar to that of the related substance, Nitrous Oxide.</td>
</tr>
<tr>
<td>b.</td>
<td>Amyl Nitrite, Isobutyl Nitrite, and Butyl Nitrite produce effects that last a few seconds up to 20 minutes.</td>
<td>Users claim these Nitrites enhance sexual excitement. This may occur from dilation of genital arteries (vasodilation) and relaxation of other smooth muscles.</td>
</tr>
<tr>
<td>c.</td>
<td>Glue, paint, gasoline and other commonly abused Inhalants produce effects that last several or more hours. (Generally 6-8 hours for most volatile solvents depending on exposure.)</td>
<td>Point out that residue of these substances may be deposited inside the nostrils, causing the user to breathe the fumes constantly. Solicit students' comments and questions concerning the time parameters of Inhalants.</td>
</tr>
</tbody>
</table>

D. Overdose Signs and Symptoms

1. There is a risk of death due to overdose of Inhalants.
   a. Some Inhalants will depress the Central Nervous System to the point where respiration ceases.
   b. Others can produce instant death from heart failure.
   c. Overdoses of Inhalants frequently induce severe nausea and vomiting: If the user vomits while he or she is unconscious, death can result from aspiration of the vomitus.

All volatile solvents make the heart more sensitive to adrenaline. This sometimes causes a dangerous cardiac arrhythmia. The term "sudden sniffing death" (SSD) has been used to describe death resulting from physical exertion and the breathing of Inhalants in an enclosed, poorly ventilated space.
2. Death can also result indirectly, if a person places a plastic bag over the head, loses consciousness and suffocates.

3. Long term abuse of Inhalants can cause permanent damage to the Central Nervous System, and greatly reduced mental and physical abilities.

4. Evidence also exists of liver, kidney, bone and bone marrow damage resulting from long term Inhalant abuse.

5. There is no well defined withdrawal symptoms for these substances. Physical dependence has not been documented, although habituation is common.

Solicit students' questions and comments concerning overdose signs and symptoms.

<table>
<thead>
<tr>
<th>XIX-9A-C</th>
<th>(Evaluation Results)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Minutes</td>
<td></td>
</tr>
</tbody>
</table>

E. Expected Results of the Evaluation.

1. Observable evidence of impairment.

- Horizontal Gaze Nystagmus will generally be present.
- Vertical Gaze Nystagmus may be present.
- Lack of Convergence will be present.

Emphasize that, with Inhalants, there is significant variation in effects from one substance to another.

Point out that immediate onset of Nystagmus may be observed.

Point out that high doses (for that individual) of Inhalants may cause Vertical Gaze Nystagmus.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Performance on the Romberg, Walk and Turn, One Leg Stand, and Finger to Nose tests will be impaired.</td>
<td>Point out that subjects may sway when performing the Romberg, One Leg Stand, and Finger to Nose tests. Point out that subjects may take slow, deliberate steps on the Walk and Turn, and will tend to stagger.</td>
<td></td>
</tr>
<tr>
<td>o pulse will be up</td>
<td>Pulse increase is due to many factors, including oxygen displacement. The heart may beat faster in order to supply body tissues with a sufficient supply of oxygen.</td>
<td></td>
</tr>
<tr>
<td>o blood pressure will be up or down</td>
<td><strong>NOTE:</strong> The Anesthetic Gases generally <strong>lower</strong> blood pressure while elevating pulse rate. The Volatile Solvents and the Aerosols usually elevate both blood pressure and pulse rate. The lowering of blood pressure by Anesthetic Gases is due to their vasodilation effect. The heart compensates for this vasodilation by increasing its heart rate.</td>
<td></td>
</tr>
<tr>
<td>o effect on body temperature may be up, down or normal.</td>
<td>Anesthetic gases may produce some dilation, although usually not to the extent seen with CNS Stimulants or Hallucinogens. <strong>No Inhalants produce pupillary constriction.</strong></td>
<td></td>
</tr>
<tr>
<td>o Pupil size will be normal but may be dilated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Reaction to light will be slowed.</td>
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<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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<td>------------------</td>
</tr>
</tbody>
</table>
| XIX-9D (General Indicators) | a. General indicators  
  o Bloodshot, watery eyes  
  o Confusion  
  o Disoriented  
  o Flushed face  
  o Intense headaches  
  o Lack of muscle control  
  o Non-communicative  
  o Normal or Flaccid muscle tone  
  o Odor of the inhaled substance  
  o Possible nausea  
  o Residue of the substance around the face and nose and on the hands or clothing  
  o Slow, thick, slurred speech  | Point out that muscle tone can be either normal or flaccid. Anesthetic gases normally cause the muscles to be flaccid. |
| XIX-10 (Symptomatology Chart) | 3. Summary | Speech usually clears up quickly when substance is no longer being inhaled. |
| | 4. Demonstrations  
  a. Video demonstrations (if available)  
  b. Drug Evaluation and Classification exemplar demonstrations | Show video of subject(s) under the influence of Inhalants. Relate behavior/ observations to the Symptomatology Chart. Refer students to the exemplars found at the end of Section XIX of their student manuals. Relate the items noted on the exemplars to the Symptomatology chart. |
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Solicit students' comments and questions concerning expected results of the evaluation of subjects under the influence of Inhalants.</td>
</tr>
</tbody>
</table>
**Topics for Study**

1. What are the three major subcategories of Inhalants?
   - Volatile Solvents, Aerosols, Anesthetic gases

2. What are some of the principal active ingredients in many volatile substances?
   - Toluene, acetone, naphtha, Aliphatic acetates, hexane, cyclohexane, benzene

3. In what important respect do the effects of Anesthetic Gases differ from the effects of Volatile Solvents and Aerosols?
   - Anesthetic gases lower blood pressure while keeping the pulse rate elevated, Volatile solvents and aerosols elevate blood pressure and pulse.

4. Does any of the subcategories of Inhalants cause pulse rate to decrease?
   - No

5. The effects of Amyl Nitrite and Butyl Nitrite last from a few seconds to up to _____ minutes.
   - 20
Session XIX

Inhalants

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

- Explain a brief history of the Inhalant category of drugs
- Identify common drug names and terms associated with this category
- Identify common methods of administration for this category
- Describe the symptoms, observable signs, and other effects associated with this category

Inhalants (Continued)

- Describe the typical time parameters, i.e. onset and duration of effects associated with this category
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this category of drugs
- Correctly answer the "topics for study" questions at the end of this session

Major Types of Inhalants

- Volatile solvents
- Aerosols
- Anesthetic gases

Volatile Solvents

- Fingernail polish remover
- Household cements and glue
- Lighter fluid
- Plastic cement ("model airplane glue")
- Petroleum products
  - Gasoline
  - Kerosene

Volatile Solvents

- Dry cleaning fluids
- Paints (particularly oil or solvent based)
- Paint thinners
- Spray paints
- Typewriter correction fluid
Aerosols
- Deodorants
- Frying pan lubricants
- Glass chillers
- Hair sprays
- Insecticides

Typical Abusers of Inhalants
- Children
- Males outnumber females
- Poor children are significantly overrepresented

Anesthetic Gases
- Amyl Nitrite
- Butyl Nitrite
- Ether
- Isobutyl Nitrite
- Nitrous Oxide

Effects of Inhalants
- Alter shapes and colors
- Antagonistic behavior
- Bizarre thoughts
- Distorted perceptions of space and time
- Dizziness and numbness
- Drowsiness and weakness
- Euphoria and grandiosity
- Floating sensations
- Inebriation similar to alcohol intoxication
- Intense headaches
- Light headedness
- Nausea and excessive salivation
- Possible hallucinations

Evaluation of Subjects
Under the Influence of Inhalants
- Horizontal Gaze Nystagmus - present
- Vertical Gaze Nystagmus - present (high dose for that individual person)
- Lack of Convergence - present
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose tests

Evaluation of Subjects
Under the Influence of Inhalants
Vital Signs:
- Pulse - up
- Blood Pressure - up or down*
- Body temperature - up, down or normal

*Up with volatile solvents or aerosols; down with anesthetic gases
Evaluation of Subjects Under the Influence of Inhalants

Dark Room:
- Pupil size - normal*
- Pupil reaction to light - slow

*May be dilated

Evaluation of Subjects Under the Influence of Inhalants

General Indicators:
- Bloodshot, watery eyes
- Confused, disoriented appearance
- Flushed face, possibly sweating
- Intense headaches
- Lack of muscle control
- Non-communicative
- Odor of the inhaled substance
- Possible traces of the substance around the face and nose
- Slow, thick, slurred speech

Inhalants Symptomatology Chart

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGN</td>
<td>Present (High dose for that individual)</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td>Present</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Normal*</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Slow</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up or down**</td>
</tr>
<tr>
<td>Temperature</td>
<td>Up, down, or normal</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>Normal or flaccid</td>
</tr>
</tbody>
</table>

*But may be dilated

**Up with volatile solvents or aerosols; down with anesthetic gases

QUESTIONS?
### Drug Influence Evaluation

**Session XIX - #1**

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>DRE No.</th>
<th>DG No.</th>
<th>Date/Time Location</th>
<th>Arresting Officer</th>
<th>Breath Results</th>
<th>Time of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sgt. Gerry Britt, Y.P.D.</td>
<td>04-79</td>
<td>04-07-15</td>
<td>07/02/04</td>
<td>Sgt. Batista, Middleboro P.D.</td>
<td>77880 0.00%</td>
<td>6 p.m.</td>
</tr>
</tbody>
</table>

**Warning:**

- Coma
- Unconsciousness
- Convulsions

**Time Now:**

- **About 10 p.m.**
- **Last night:** 6 hrs.

**Physical Observations:**

- **Speech:** Slurred, mumbling
- **Pupil size:** Equal
- **Rebounding:** Positive

**Gestural Or Stumbling:**

- **Right hand:** Paint
- **Left hand:** Paint

**Hair and Clothing:**

- **Color:** Black
- **Odor:** None

**Footwear:** Athletic shoes

**Plantar Reflex:**

- **Right:** Normal
- **Left:** Null

**Date/Time of Arrest:**

07/02/04 2145

**Where were the drugs used? (Location):**

In the Park

**Time of use:** 8 p.m.

**Opinion of evaluator:**

- Rate Out: 9
- Medical: Yes
- Alcohol: Yes
- CNS Stimulant: No
- Dissociative Anesthetic: No
- Narcotic Analgesic: No
- Hallucinogen: No
- Cannabis: No

**Inhalant:**

- Ethanol: No
- Opiates: No
- Inhalant: Yes

**Other:**

- Compensation: None
- Neutered: Yes
- Insecticide: No
- Inhaled: No

**Blood Pressure:**

- 140/100

**Temperature:**

- 98.6°F

**Height:**

- 5'10"n

**Weight:**

- 170 lbs

**Hair Color:**

- Black

**Facial Hair:**

- None

**Skin Texture:**

- Normal

**Eye Color:**

- Brown

**Auricles:**

- Normal

**Lips:**

- Normal

**Arms:**

- Normal

**Feet:**

- Normal

**Nails:**

- Normal

**Spine:**

- Normal

**Neck:**

- Forward

**Abdomen:**

- Soft

**Genitalia:**

- Normal

**Muscle Tone:**

- Normal

**Posture:**

- Normal

**Facial Expression:**

- Normal

**Voice:**

- Normal
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Graves, James L.

1. **LOCATION:** The evaluation of James Graves was conducted in the interview room at the Middleboro Police Department.

2. **WITNESSES:** The evaluation was witnessed and recorded by Sgt. Don Decker of the Marblehead Police Department.

3. **BREATH ALCOHOL TEST:** The arresting officer, Sgt. Deb Batista of the Middleboro Police Department administered a breath test to Graves with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted by radio and advised to contact Sgt. Batista for a drug evaluation. Sgt. Batista advised she arrested Graves for DUI after observing him fail to stop at a red traffic light at Main and Wareham Street. The suspect was cooperative but appeared dazed. He performed poorly on the SFST’s. A can of Krylon gold spray paint was located in the front seat of the suspect’s vehicle along with paint soaked rags.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the P.D. He appeared passive and dazed. He had very poor coordination and balance. Gold paint smears were visible on his hands and face.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect was unable to perform the test and it was stopped for safety reasons. Walk & Turn: The suspect lost his balance three times and the test was stopped for safety reasons. One Leg Stand: The suspect put his foot down twice while standing on the left foot. He was unable to perform the test when attempting to stand on the right foot and the test was stopped. Finger to Nose: The suspect was allowed to sit down for this test. He used the palm of his hands and touched in the general area of his nose.

8. **CLINICAL INDICATORS:** The suspect had six clues of HGN and a Lack of Convergence. His pulse and blood pressure were above the normal ranges.

9. **SIGNS OF INGESTION:** Paint-like odor on his breath. Paint smears on hands and face.

10. **SUSPECT’S STATEMENTS:** Suspect admitted “huffing” some gold paint in the park.

11. **DRE’S OPINION:** In my opinion Graves is under the influence of an Inhalant and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION

Evaluator:
Sgt. Craig Porter

DRE No.: 3102

Rolling Log No.: 04-12-16

Session XIX - #2

Witness:
Sgt. Russ Belz

DOB: 9-01-84

Sex: F

Race: W

Arresting Officer (Name, If No.):
Sgt. Russ Belz

Date: 12/17/04

Time of Last Drink: 7 pm

Test: After work couple of wine coolers

Time You Last Slept: About 8 pm

Date: 12/17/04

Time of Test: 1945

Time DRE Notified: 1955

Evaluation Start Time: 1955

Time Completed: 2050

Case #: 04-12859

Drug Influence:

Attitude: Cooperative

Slew to respond

Coordination:
Poor, staggering at times

Face:
Flushed

Speech:
Slow, slurred

Corrective lens:
None

Glasses:
None

Contacts, if so:
None

Hard:
No

Soft:
Yes

Pupil size:
Equal

Unusual:
No

HGN:
Lack of smooth pursuit

Maximum deviation

Angle of onset

Romberg Balance:

Circular sway

Sway nearly fell

Internal clock:
Est. as 30 seconds

Draw lines to spots touched

Blood Pressure:
140/114

Temperature:
98.6°F

Muscle tone:
Near normal
Fasciculation
Rigid

Comments:

What medication or drug have you been using? I don't do drugs
How much?

Time of use:
Refused

Where were the drugs used? (Location)

Refused

Date and Time of Arrest:
12/17/04

DRE duration (include trial)

ID #: 286

Reviewed by

Opinion of evaluator:

Rule Out

Alcohol

CNS Stimulant

Dissociative Anesthetic

Inhalant

Medicinal

CNS Depressant

Hallucinogen

Narcotic Analgesic

Cannabis

No visible marks

RIGHT ARM

LEFT ARM

Nasal area: Runny nose

Gas-like odor

Type of footwear:
Athletic shoes
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Mashburn, Cathy

1. LOCATION: The evaluation of Cathy Mashburn was conducted at the Polk County Jail.

2. WITNESSES: The evaluation was witnessed and recorded by Sergeant Russ Belz of the Story County Sheriff’s Office.

3. BREATH ALCOHOL TEST: The arresting officer, Deputy Dan Grimm of the Polk County S.O. administered a breath test to Mashburn with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was notified by radio to contact Deputy Grimm at the Polk County Jail for a drug evaluation. Deputy Grimm advised he arrested Mashburn after observing her pull out in front of oncoming traffic nearly causing a crash. The suspect was cooperative but slow to respond to questions. She performed poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the jail. Her speech was slow and slurred. She had poor coordination, staggering at times. Her eyes were watery and bloodshot.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect stated she felt dizzy.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: The suspect had an approximate 3" circular sway and she estimated 30 seconds in 19 seconds. Walk & Turn: The suspect lost her balance twice during the instructions, staggered, nearly fell and the test was stopped. One Leg Stand: After putting her foot down three times and nearly falling, the test was stopped. Finger to Nose: The suspect was allowed to sit down for the test for safety reasons. She touched the tip of her nose on one of the six attempts. She also used the wrong hand on attempts #5 and #6.

8. CLINICAL INDICATORS: The suspect had six clues of HGN and a Lack of Convergence. Her pulse and blood pressure were above the normal ranges.

9. SIGNS OF INGESTION: The suspect had a runny nose, bloodshot and watery eyes. She also had a gas-like odor on her breath and clothing.

10. SUSPECT'S STATEMENTS: Suspect admitted drinking a “couple of wine coolers” but denied using any other substances.

11. DRE’S OPINION: In my opinion Mashburn is under the influence of an Inhalant and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.
SESSION XX

PRACTICE: VITAL SIGNS EXAMINATIONS
SESSION XX  PRACTICE: VITAL SIGNS EXAMINATIONS

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

- Conduct examinations of pulse, blood pressure and temperature.
- Describe the vital signs examination procedures.
- Document the results of the vital signs examinations.

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<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
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<td>A. Procedures For This Session</td>
<td>o  Instructor Led Presentations</td>
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<td>B. Pulse Measurements</td>
<td>o  Students Hands On Practice</td>
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<tr>
<td>C. Blood Pressure Measurements</td>
<td>o  Instructor Led Coaching</td>
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<tr>
<td>D. Session Wrap Up</td>
<td>o  Student Led Coaching</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>![Image]</td>
<td><strong>PRACTICE: VITAL SIGNS EXAMINATIONS</strong></td>
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<td>![Image]</td>
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<td>![Image]</td>
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</tr>
<tr>
<td>![Image]</td>
<td><strong>XX-1</strong> (Title)</td>
</tr>
<tr>
<td>![Image]</td>
<td><strong>XX-2</strong> (Objectives)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>A. Procedures For This Session</strong></td>
</tr>
<tr>
<td></td>
<td>1. Participants will work in three or four member teams.</td>
</tr>
<tr>
<td></td>
<td>a. At any given time, one member of the team will be engaged in conducting and recording vital signs examinations of another member.</td>
</tr>
<tr>
<td></td>
<td>b. The remaining member(s) will help coach and critique the student who is conducting the examinations.</td>
</tr>
<tr>
<td></td>
<td>c. Students will take turns serving as test administrator, test subject and coach.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td>------</td>
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<tr>
<td>2.</td>
<td>Teams initially will practice taking one another's <strong>pulse</strong>.</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>3.</td>
<td>Teams subsequently will practice taking one another's <strong>blood pressure</strong>.</td>
</tr>
<tr>
<td>4.</td>
<td>Students will record their measurements, using the Vital Signs Examination Data Sheet.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B. Pulse Measurements</strong></td>
</tr>
<tr>
<td></td>
<td><strong>20 Minutes</strong></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>C. Blood Pressure Measurements</td>
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</tr>
<tr>
<td></td>
<td>D. Session Wrap Up</td>
</tr>
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<td></td>
</tr>
</tbody>
</table>
# VITAL SIGNS EXAMINATIONS DATA SHEET

**EXAMINER'S NAME**

**DATE**

<table>
<thead>
<tr>
<th>SUBJECT'S NAME</th>
<th>SUBJECT'S NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>PULSE MEASUREMENTS</td>
<td>BLOOD PRESSURE MEASUREMENTS</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
</tr>
<tr>
<td>PULSE POINT USED</td>
<td>SYSTOLIC</td>
</tr>
<tr>
<td>BEATS PER MINUTES</td>
<td>DIASTOLIC</td>
</tr>
<tr>
<td>SUBJECT'S NAME</td>
<td>SUBJECT'S NAME</td>
</tr>
<tr>
<td>TIME</td>
<td>TIME</td>
</tr>
<tr>
<td>PULSE POINT USED</td>
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</tr>
<tr>
<td>BEATS PER MINUTES</td>
<td>DIASTOLIC</td>
</tr>
</tbody>
</table>
Session XX
Practice:
Vital Signs Examinations

Practice:
Vital Signs Examinations
Upon successfully completing this session the students will be able to:
• Conduct examinations of pulse, blood pressure and temperature
• Describe the vital signs examination procedures
• Document the results of the vital signs examinations

QUESTIONS?
One Hour and Twenty-Five Minutes

SESSION XXI

CANNABIS
SESSION XXI    CANNABIS

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

-o Explain a brief history of Cannabis.

-o Identify common names and terms associated with Cannabis.

-o Identify common methods of administration for Cannabis.

-o Describe the symptoms, observable signs and other effects associated with Cannabis.

-o Describe the typical time parameters, i.e. onset and duration of effects associated with Cannabis.

-o List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of this drug category.

-o Correctly answer the "topics for study" questions at the end of this session.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Overview of the Category</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects</td>
<td>o Review of Drug Evaluation and Classification Exemplars</td>
</tr>
<tr>
<td>C. On-Set and Duration of Effects</td>
<td>o Reading Assignments</td>
</tr>
<tr>
<td>D. Overdose Signs and Symptoms</td>
<td>o Video Presentations (If Available)</td>
</tr>
<tr>
<td>E. Expected Results of the Evaluation</td>
<td>o Slide Presentations</td>
</tr>
</tbody>
</table>
### A. Overview of the Category

1. "Cannabis" is a category of drugs derived primarily from various species of Cannabis plants, such as Cannabis Sativa and Cannabis Indica.
   - a. Cannabis grows readily throughout the temperate zones of the world
   - b. It has been cultivated for centuries.

2. 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 stem or branches.

### Instructor Notes

**Total Lesson Time:**
Approximately 85 Minutes

**Display Session Title**

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

**If available**, display slides of Cannabis plants, leaves, flowers, etc.

**INSTRUCTORS NOTE:** Some jurisdictions as well as botanists don't recognize Cannabis Indica as a separate plant species.

**Example:** At the first permanent English settlement in America, Jamestown, VA, where it was grown to produce hemp.

**Point out**: "Δ- 9 THC" on dry erase board or wall chart.

**Point out** that the highest known THC content is 33.12%, from marijuana seized by the Oregon State Police in 2002.

**Source:** Drug ID Bible, 2004/2005
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Different varieties of the Cannabis have different concentrations of THC.</td>
<td><strong>Explanatory note:</strong> &quot;Sinsemilla&quot; is a Spanish derivative of the latin expression &quot;sine semina&quot; meaning &quot;without seed&quot;.</td>
</tr>
<tr>
<td></td>
<td>c. One variety that has a relatively high concentration of THC is Sinsemilla, which is the unfertilized female Cannabis Sativa plant.</td>
<td>Show slides - of special types</td>
</tr>
<tr>
<td><strong>XXI-3 (Forms of Cannabis)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>There are four principal forms of Cannabis.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. <strong>Marijuana</strong> - The dried leaves of the plant.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. <strong>Hashish</strong> - A form of cannabis made from the dried and pressed resin of a marijuana plant.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. <strong>Hash Oil</strong> - Sometimes referred to as &quot;marijuana oil&quot;, it is a highly concentrated syrup-like oil extracted from marijuana. It is normally produced by soaking marijuana in a container of solvent, such as acetone or alcohol for several hours and after the solvent has evaporated, a thick syrup-like oil is produced with a THC content generally of 8-20%.</td>
<td><strong>Source:</strong> Drug Identification Bible, 2004/2005 Edition.</td>
</tr>
<tr>
<td></td>
<td>d. <strong>Marinol</strong> (or Dronabinol) - A synthetic form of THC. This is a prescriptive drug used to inhibit vomiting. It is prescribed for certain cancer patients undergoing chemotherapy.</td>
<td><strong>Hash Oil THC Content Source:</strong> Drug Identification Bible, 2004/2005 Edition.</td>
</tr>
<tr>
<td></td>
<td>&quot;Dronabinol&quot; is the generic, or chemical name for the synthetic THC. &quot;Marinol&quot; is the trade name for Dronabinol.</td>
<td></td>
</tr>
</tbody>
</table>
### Aids Lesson Plan

Nabilone - an analog of Dronabinol used as an anti-vomiting agent.

### Instructor Notes

*Note: Nabilone is not commercially available in the United States.*

### 4. Cannabis has some limited medical applications.

**a.** It lowers intraocular pressure, which can be helpful for Glaucoma patients.

"Intraocular": within the eyeball.

Cannabis lowers the intraocular pressure by dilating in size the blood vessels of the eyes (more size - less pressure).

This causes reddening of the conjunctiva.

**b.** It suppresses nausea, and sometimes is recommended for cancer patients to relieve the nausea accompanying chemotherapy.

**c.** Cannabidiol, a non-psychoactive ingredient found in Cannabis, is used in treating Epilepsy; it helps to inhibit seizures.

**d.** Cannabis has also had some limited medical applications as:

- an appetite enhancer for victims of Anorexia Nervosa;
- a muscle relaxant;
- a tumor growth retardant.

### 5. Potency, Purity and Dose

**a.** Average THC concentration:

Point out that Marijuana has been legalized for medical treatment in many states.
Aids | Lesson Plan | Instructor Notes
--- | --- | ---
o Marijuana 1-5%
o Hashish 5-15%
o Hashish Oil 10-12%
o Sinsemilla 15%+

b. Recreational doses are highly variable

6. Marijuana usually is smoked.

7. Marijuana, Hashish and Hash oil also can be ingested orally, for example, baked in cookies or brownies and eaten.

8. In controlled studies, passive inhalation of Marijuana smoke has resulted in behavioral effects as well as a measurable amount in toxicology samples. Study does not address quantitative amount of physical impairment.

Solicit students' comments and questions concerning this overview of Cannabis.

B. Possible Effects

1. One major effect of Marijuana is that it appears to interfere with a person's ability to **pay attention**.

a. People under the influence of Marijuana simply seem not to pay attention, or to have very brief attention spans.

b. In particular, they do not divide their attention very successfully.

Clarification: They have a difficult time dealing with more than one or two tasks at once.
c. This can make them very unsafe drivers, since driving requires the ability to divide attention among many simultaneous tasks, i.e.

- steering
- operating the accelerator
- signaling
- observing other traffic
- recognizing traffic control devices
- shifting

d. People under the influence of Marijuana may attend to one or a few of these driving tasks, but simply ignore the other tasks.

e. Because Marijuana impairs attention, Standardized Field Sobriety Tests like Walk and Turn and One Leg Stand are excellent tools for recognizing people under the influence of Marijuana.

Remind students that WAT and OLS are divided attention Standardized Field Sobriety Tests.

Note: effects will vary with dose, route of administration, experience of user, and other factors.

2. Pharmacological Effects of Marijuana

a. Relaxation
b. Euphoria
c. Relaxed Inhibitions
d. Disorientation
<table>
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<tr>
<th>Aids</th>
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<tbody>
<tr>
<td>e. Altered time and distance perception</td>
<td>f. Sedation</td>
<td></td>
</tr>
<tr>
<td>3. Other Characteristic Indicators</td>
<td></td>
<td>Point out that there are no known studies that confirm marijuana causing a green coating on the tongue.</td>
</tr>
<tr>
<td>a. Odor of marijuana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Marijuana debris in the mouth</td>
<td></td>
<td>Point out that this may become evident when the suspect attempts to estimate the passage of 30 seconds when performing the Romberg test.</td>
</tr>
<tr>
<td>c. Possible green coating on the tongue</td>
<td></td>
<td>Solicit students' comments or questions concerning possible effects of Marijuana.</td>
</tr>
<tr>
<td>d. Reddening of the conjunctivae</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Body tremors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Eyelid tremors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C. Onset and Duration of Effects

5 Minutes

1. Persons begin to feel and exhibit the effects within 8-9 seconds after smoking Marijuana.

2. The effects reach their peak within 10-30 minutes.

3. Depending on the amount smoked and on the concentration of THC in the Marijuana, the person will

NOTE: A 1985 Stanford University study shows pilots have difficulty in holding patterns and in lining up with runways for up to 24 hours after using Marijuana.
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>continue to feel and exhibit the effects for 2 - 3 hours.</td>
<td>In 1990 - a second Stanford University Study shows: Marijuana impaired performance at .25, 4, 8, 24 hours after smoking. While 7 of the 9 pilots showed some degree of impairment at 24 hours after smoking Cannabis, only one reported any awareness of the drugs effects.</td>
</tr>
<tr>
<td></td>
<td>4. Generally, the person will feel &quot;normal&quot; within 3-6 hours after smoking Marijuana.</td>
<td>Solicit students' comments and questions concerning onset and duration factors.</td>
</tr>
<tr>
<td></td>
<td>a. The user may be impaired long after the euphoric feelings have ceased.</td>
<td>Source Marijuana Alert, Peggy Mann (Bibliography)</td>
</tr>
<tr>
<td></td>
<td>5. Note that blood and urine tests will continue to disclose evidence of the use of Marijuana long after the effects of Marijuana have disappeared.</td>
<td>NIDA Study, &quot;Blood Brain Barrier&quot;</td>
</tr>
<tr>
<td></td>
<td>a. Blood tests may disclose Marijuana use for at least 3 days after smoking.</td>
<td>Point out that it can take as long as 4 hours for THC to appear in the urine at concentrations sufficient to trigger a positive drug screen (50 ng/ml) following smoking.</td>
</tr>
<tr>
<td></td>
<td>b. Urine tests may indicate the presence of metabolites of THC for a month or more.</td>
<td>Write &quot;Hydroxy THC: Causes Impairment and Euphoria&quot; on the dry erase board or flip-chart.</td>
</tr>
<tr>
<td></td>
<td>c. There are two important metabolites, or chemical by-products of THC.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Hydroxy THC, which causes the user to feel euphoric.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Carboxy THC, there is no evidence at this time that it is psychoactive.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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</tr>
<tr>
<td>d.</td>
<td>Hydroxy THC usually is eliminated from the blood plasma within six hours.</td>
<td></td>
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<tr>
<td>e.</td>
<td>Carboxy THC may be found in the blood plasma for several days following Marijuana use.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Cannabis is a fat soluble (i.e. it dissolves easily into fatty tissue); therefore, it can remain for long periods in the brain tissue, which is about one-third fat.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Cannabis principally is eliminated from the body in feces and urine.</td>
<td></td>
</tr>
</tbody>
</table>

**D. Overdose Signs and Symptoms**

1. Excessive or long term use of Marijuana can have very undesirable consequences.

2. Marijuana has been observed to produce sharp personality changes, especially in adolescent users.

3. It can create paranoia and possible psychosis.

4. Long term effects include:

   a. Lung damage

   b. Chronic Bronchitis

   c. Lowering of Testosterone (male sex hormone)

   Ask students: "Is there danger of death from Cannabis overdose?"

   Answer: It is not likely that there is a direct risk of death from an overdose. However, persons impaired by Cannabis may behave in foolishly dangerous ways, and become injured or killed as a result.
d. Possible birth defects, still births and infant deaths

e. Acute anxiety attacks

f. Chronic reduction of attention span

g. Research indicates that life threatening overdoses rarely if ever occur.

h. Withdrawal - is similar to alcohol dependence withdrawal.

i. Physical dependence can occur with chronic use.

Solicit students' questions concerning signs and symptoms of Cannabis overdose.

E. Expected Results of the Evaluation

1. Observable evidence of impairment

a. Clinical indicators

  o neither Horizontal nor Vertical Gaze Nystagmus will be present.

  o Lack of Convergence generally will be present.

But remind students that Marijuana users often drink alcohol in conjunction with their smoking, and that others often lace their Marijuana with PCP. Either combination would cause Nystagmus.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>o performance on the Romberg, Walk and Turn, One Leg Stand, and Finger to Nose tests will be impaired.</td>
<td>Remind students to be especially alert for evidence of the suspect's distorted perception of time when performing the Romberg test.</td>
<td></td>
</tr>
<tr>
<td>o blood pressure generally will be up</td>
<td>Point out that, with suspects under the influence of Marijuana, poor performance on these tests usually will result principally from their inability to divide attention, and less so from impaired coordination or balance.</td>
<td>Vasodilation - allows for greater blood flow but an increase in the amount of heat lost.</td>
</tr>
<tr>
<td>o pulse generally will be up</td>
<td>The content and potency could effect pupil size. The higher THC content will increase the likelihood of pupil dilation. However, Cannabis does not cause pupil constriction.</td>
<td>Government grown Cannabis has low THC levels. Studies using it tends to show a normal range of pupil size.</td>
</tr>
<tr>
<td>o body temperature will be normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o pupil size generally will be dilated or possibly normal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o pupil reaction to light will be normal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o DREs report a phenomenon termed &quot;Rebound Dilation&quot; in subjects under the influence of Marijuana.</td>
<td>Clarification: &quot;Rebound Dilation&quot; is a period of constriction followed by dilation with a change equal to or greater than 2 mm the final size determination being estimated at the end of a 15-second time period in</td>
<td></td>
</tr>
</tbody>
</table>
which the light from the penlight is directed into the eye. **NOTE HOWEVER** that this phenomenon has not been systematically investigated in controlled research.

Draw an eye on a balloon and squeeze it to demonstrate the difference between Hippus and Rebound.

**NOTE:** Remind students that the final size determination being estimated at the end of the 15-second time period in which the light from the penlight is directed into the eye. Caution should be used by the officer so as not to move the light beam or allow the bulb to change in light intensity.

**Note:** Occasionally some users of marijuana have displayed a greenish coating on their tongue after recent use. However, this does not occur with all users.

Point out that this is properly called Conjunctival Injection. Conjunctiva is the mucous membrane that lines the inner surface of the eyelids and is continued over the forepart of the eyeball.

Point out that his should not be confused with conjunctivitis which is a disease of the eye. The vasodilation is the primary cause of the reddening of the eyes not the Cannabis smoke.

---

**Aids**

XXI-6D

(General Indicators)

**b. General indicators:**

- Body tremors
- Disoriented
- Debris in mouth
- Eyelid tremors
- Impaired perception of time and distance
- Increased appetite
- Marked reddening of the conjunctiva
- Odor of marijuana
- Possible paranoia
- Relaxed inhibitions
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXI-7 (Symptomatology Chart)</td>
<td>3. Summary</td>
<td>Visine causes vaso-constriction in the eyes and is often used to reduce the reddening.</td>
</tr>
<tr>
<td></td>
<td>4. Demonstrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Video demonstrations (if available)</td>
<td>Show video of subject(s) under the influence of Cannabis. Relate behavior/observations to the Symptomatology Chart.</td>
</tr>
<tr>
<td></td>
<td>b. Drug Evaluation and Classification exemplar demonstrations.</td>
<td>Refer students to the exemplars found at the end of Section XXI of their student manuals. Solicit students' comments and questions concerning expected results of the evaluation.</td>
</tr>
</tbody>
</table>
**Topics for Study**

1. What is the active ingredient in Cannabis?
   
   Delta 9 THC

2. Why are the Walk and Turn test and the One Leg Stand test excellent tools for recognizing persons under the influence of marijuana?
   
   Cannabis appears to interfere with a person’s ability or willingness to pay attention. People under the influence of marijuana do not divide their attention very well. Walk and Turn and the One Leg Stand tests are divided attention tests.

3. What is Marinol?
   
   A synthetic form of THC that is not derived from Cannabis plants. It is a prescriptive drug that is sometimes administered to cancer patients to suppress nausea that may accompany chemotherapy. Also known as Dronabinol.

4. What is Sinsemilla?
   
   The unpollinated female cannabis plant, having a relatively high concentration of THC

5. Name two important metabolites of THC, and describe how they affect the duration and perception of the effects of Cannabis.
   
   Hydroxy THC - causes the user to feel euphoric so they are aware of the effects.

   Caboxy THC - there is no evidence at this time that this metabolite is psychoactive.
Session XXI

Cannabis

Upon successfully completing this session the student will be able to:
- Explain a brief history of Cannabis
- Identify common names and terms associated with Cannabis
- Identify common methods of administration for Cannabis
- Describe the symptoms, observable signs and other effects associated with Cannabis

Cannabis (Continued)

- Describe the typical time parameters, i.e. onset and duration of effects associated with Cannabis
- List the clues that are likely to emerge when the drug influence evaluation is conducted for a person under the influence of Cannabis
- Correctly answer the “topics for study” questions at the end of this session

Forms of Cannabis

- Marijuana
- Hashish
- Hash Oil
- Marinol

Onset and Duration of Marijuana’s Effects

- 8-9 seconds - User begins to feel and exhibit effects
- 10-30 minutes - Peak effects are reached
- 2-3 hours - User continues to feel and exhibit effects
- 3-6 hours - User feels “normal”

Metabolites of THC

- Hydroxy THC
  Causes Impairment and Euphoria
- Carboxy THC
  (Not psychoactive)
Evaluation of Subjects Under the Influence of Cannabis

- HGN or VGN - none
- Lack of Convergence - present
- Impaired performance will be evident on Romberg, Walk and Turn, One Leg Stand and Finger to Nose

Vital Signs:
- Pulse - up
- Blood pressure - up
- Body temperature - normal

Evaluation of Subjects Under the Influence of Cannabis

Dark Room:
- Pupil size - dilated*
- Pupil reaction to light - normal

*Possibly normal

Evaluation of Subjects Under the Influence of Cannabis

General Indicators:
- Body tremors
- Disoriented
- Debris in mouth (possible)
- Eyelid tremors
- Impaired perception of time and distance
- Increased appetite
- Marked reddening of conjunctiva
- Odor of marijuana
- Possible paranoia
- Relaxed inhibitions

Cannabis Symptomatology Chart

<table>
<thead>
<tr>
<th></th>
<th>HGN</th>
<th>VGN</th>
<th>Lack of Convergence</th>
<th>Pupil Size</th>
<th>Reaction to Light</th>
<th>Pulse Rate</th>
<th>Blood Pressure</th>
<th>Temperature</th>
<th>Muscle Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>None</td>
<td>Present</td>
<td>Dilated*</td>
<td>Normal</td>
<td>Up</td>
<td>Up</td>
<td>Normal</td>
<td>Normal</td>
</tr>
</tbody>
</table>

* Or possibly normal

QUESTIONS?
DRUG INFLUENCE EVALUATION

Evaluator: Cst. John Bercic, Vancouver PD
Record: DRE No. 4651
Rolling Log No. 05-11-04
Session XXI-1 - #1

Sex: M
Race: W

DOB: 5/24/84

Date Examed: 11-05-06, 2200 Hrs., Vancouver PD

Breath Results: Instrument # 47451, 0.00 %

By: Cst. Ferguson

Have you eaten today? Yes

What have you been drinking? Nothing

Time of last drink: 5 pm

Are you under the care of a doctor or dentist? Yes

"No drugs man.

Loud, talkative

Flushed, sweaty

Eyes:
Reddened Conjunctiva
Normal
Bloodshot
Watered

Blindness:
None

Left Eye
Right Eye

Tracking:
Equal
Unequal

Coordination:

HGN:
Lack of smooth pursuit
Maximum deviation
Angle of onset

Vertical Nystagmus
Yes
No

Convergence

Right eye
Left eye

One Leg Stand

Walk and Turn test

Test Stopped

N/A

Draw lines to spots touched

Blood pressure: 164/106
Temperature: 98.6°F

Muscle tone: Near normal

Marked

Hipsus:

Yes
No

Reaction to Light: Normal

RIGHT ARM

LEFT ARM

No visible marks

Pupil Size Room Light Darkness Direct
Left 5.0 8.0 6.0 - 7.0
Right 5.5 8.5 5.0 - 7.5

Rebound dilation

Opinion of evaluator:

Rule Out
Alcohol
CNS Stimulant
Disinhibitive Anesthetic
Inhalant
CNS Depressant
Hallucinogen
Narcotic Analgesic
Cannabis

Date/Timedef Arrest: 11/05/06, 2115 hrs.

Time DRE Notified: 2150

Evaluation Start Time: 2200

Time Arrested: 2200

Signature: [Signature]

DD 4651

MD # 114

Revising Dr.: [Signature]

Opinion of evaluator:

Rule Out
Alcohol
CNS Stimulant
Disinhibitive Anesthetic
Inhalant
CNS Depressant
Hallucinogen
Narcotic Analgesic
Cannabis

XXI-16
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Clark, Kenneth A.

1. LOCATION: The evaluation of Kenneth Clark was conducted in the interview room at the Vancouver Police Department.

2. WITNESSES: The evaluation was witnessed and recorded by Sgt. Paul Milne of the New Westminster Police Services.

3. BREATH ALCOHOL TEST: The arresting officer, Constable John Ferguson of the R.C.M.P. administered a breath test to Clark with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by radio and advised to contact Cst. Ferguson at the Vancouver Police Department for a drug evaluation. Cst. Ferguson advised he stopped Clark after observing him exit Highway 1A at a high rate of speed then fail to stop at a stop sign. The suspect seemed unconcerned about his driving and told the Constable that he was “just having some fun.” After performing poorly on the SFST’s, he was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at V.P.D. He was loud and laughing and repeatedly said, “This machine says I’m not drunk.” He had poor coordination and balance and several times bumped into the interview table. He had a noticeable reddening of the conjunctiva.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect was unable to perform the test and it was stopped for safety reasons. Walk & Turn: Suspect lost his balance twice during the instructions stage, missed heel to toe three times in the first seven steps and the test was stopped for safety reasons. One Leg Stand: Suspect put his foot down three times, nearly fell and the test was stopped for safety reasons. Finger to Nose: Suspect was seated and missed the tip of his nose on each attempt. The suspect exhibited eyelid tremors.

8. CLINICAL INDICATORS: Suspect had a Lack of Convergence. His pupils were dilated in room light and direct light. His pulse and blood pressure were above the normal ranges.

9. SIGNS OF INGESTION: The suspect had an odor of marijuana on his breath.

10. SUSPECT’S STATEMENTS: Suspect at first denied using drugs then stated, “What’s the big deal? A little pot doesn’t hurt anybody, man.”

11. DRE’S OPINION: In my opinion Clark is under the influence of a Cannabis and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION

Evaluator: Robert Hayes, Albany PD
DRE No. 6606
Rolling Log No. 04-23
Session XXI- # 2

Record/Witness: Sgt. Eric Judah, OJP
Arresting Name: (First, First Initial)
Pettis, Charles E. 11-06-70
DOB: Sex: R

Date Examined/Time/Location: 09/11/04, 23-25
Lino. Co. Jail

Miranda Warning Given: X Yes ☐ No
What have you eaten today?
Hot dog

Time now?
About 9 pm
When did you last sleep?
Last night
How long?
About 5 hrs.

Are you taking insulin? X Yes ☐ No
Do you have any physical defects? X Yes ☐ No
Are you a diabetic or epileptic? X Yes ☐ No
Are you under the care of a doctor or dentist? X Yes ☐ No
Do you take any medication or drugs? X Yes ☐ No

Attitude: Impatient, Anxious
Breath: Alcoholic beverage
Coordination: Poor, Disoriented
Face: Normal

Speech: Slow, slurred

Lack of smooth pursuit
Maximum deviation
Angle of onset

HGN

Left Eye
Right Eye
Vertical Nystagmus
Convergence

Romberg Balance

Walk and Turn test
Leg Trenors

Internal clock
cannot do test (explan)

N/A

Describe Turn
Lost balance, stepped to the right

 cannibalized

Pupil Size
Room Light
Darkness
Direct

Oral cavity: Brownish coating on tongue

Hippus:
Rebound dilatation

Reaction to Light:

N/A

Eye Lid Tremors

Blood pressure: 180/100
Temperature 98.2 F

Muscle tone: Near normal

Comments:

What medication or drug have you been using? How much?

Time of use:

Where were the drugs used? (Location)

Date/Time of Arrest:
09/11/04, 23:05 hrs.

Time DRE Notified:
23:15 hrs.

Evaluation Start Time:
23:25 hrs.

Time Completed:
09/11/04

Opinion of evaluator:
Ruled Out
Alcohol
CNS Stimulant
Dissociative Anasthetic
Inhalant
Medical
CNS Depressant
Hallucinogen
Narcotic Analgesic
Cannabis

X X

RIGHT ARM
LEFT ARM
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Peltier, Charles E.

1. **LOCATION:** The evaluation of Charles Peltier was conducted in the interview room at the Linn County Jail.

2. **WITNESSES:** The evaluation was witnessed and recorded by Sgt. Eric Judah of the Oregon State Police.

3. **BREATH ALCOHOL TEST:** The arresting officer, Senior Trooper Steve Webster of the Oregon State Police administered a breath test to Peltier with a 0.06% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted by radio and advised to contact Sgt. Judah and Sr. Tpr. Webster at the Linn County Jail for a drug evaluation. Sr. Tpr. Webster advised he arrested Peltier for DUI after he attempted to elude officers on I-5 south of Salem. The suspect was detained with the use of spike strips. The suspect was disoriented and had poor balance and coordination. After performing poorly on the SFST’s, he was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at the jail. He seemed impatient and anxious. He had poor coordination and balance and his speech was slow and slurred.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect had an approximate 3” circular sway and estimated 30 seconds in 42 seconds. Walk & Turn: Suspect lost his balance during the instructions stage, missed heel to toe, stopped twice while walking and raised his arms for balance. One Leg Stand: Suspect swayed while balancing, used his arms for balance, put his foot down once and had noticeable leg tremors. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts and exhibited eyelid tremors.

8. **CLINICAL INDICATORS:** Suspect had a Lack of Convergence. His pupils were dilated in room light and direct light. His pulse and blood pressure were above the normal ranges.

9. **SIGNS OF INGESTION:** The suspect had a brownish coloration on his tongue.

10. **SUSPECT’S STATEMENTS:** Suspect admitted drinking “Two beers” and laughed when asked about smoking marijuana.

11. **DRE’S OPINION:** In my opinion Peltier is under the influence of Alcohol and Cannabis and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.
DRUG INFLUENCE EVALUATION

Evaluating Officer: Ed Harris, Seattle P.D. DRN No. 9532

Recorder/Witness: Sgt. Rob Sharpe, WSP

Arrestee's Name (Last, First M.I.): Wright, James B.

Date and Place of Arrest: 12/07/07, Seattle P.D.

Breath Results: Instrument #4773, .00 %

Miranda Warning Given: Yes / No

What have you eaten today? 7 pm Nothing

When? 7 pm Nothing

What have you been drinking? How much? 7 pm Nothing

Time of last drink? 7 pm Nothing

About midnight Last night

Time now? 9 hrs

Do you do insulin? Yes / No

Do you have any physical defects? Yes / No

Are you under the care of a doctor or dentist? Yes / No

Are you taking any medication or drugs? Yes / No

Attitude: Relaxed, Care Free

Odor of marijuana: Normal

Coordination: Poor, Stumbling

Speech: Slow & deliberate

Eyes: Reddened

Corrective lens: None

Glasses: Yes

Contacts, if so: No

Hard: No

Soft: No

Pupil size: Equal

Unusually large: No

Able to follow stimula: Yes

Unusually small: No

Eye movements: Normal

Droopy

HON

Pulse and time:

1. 10:08 / 11:07 pm

2. 11:08 / 11:20 pm

3. 10:08 / 11:38 pm

Lack of smooth pursuit

Maximum deviation

Angle of onset

Tests too soon:

Convergence

Right eye

Sweats while balancing

Uses arms to balance

Hopping

Fats foot down

Type of footwear: Loafers

Inteval clock:

N/A

Spun around

Cannot test (explain)

N/A

Blood pressure:

140 / 96

Temperature:

98.6 F

Muscle tone: Near normal

Facial

Rigid

Eyeid Tremors

Right arm

None visible

LEFT ARM

Hippus:

Yes / No

Rebound dilation:

Yes / No

Reaction to Light:

Normal

Opinion of evaluator:

Rule Out

Medical

CNS Depressant

Hallucinogen

Narcotic Analgesic

Cannabis
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Wright, James B.

1. LOCATION: The evaluation of James Wright took place in the interview room at the West Precinct of the Seattle Police Department.


3. BREATH ALCOHOL TEST: Sgt. Sharpe administered a breath test to Wright with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was on duty at the West Precinct when contacted by Sgt. Sharpe requesting a drug evaluation. Sgt. Sharpe advised he arrested Wright after his vehicle struck another vehicle on Highway 99 north of Seattle. There was an odor of marijuana coming from the suspect’s vehicle. He had poor balance and coordination and was unable to perform the SFST’s as directed. Sgt. Sharpe located a small pipe containing marijuana residue in the suspect’s vehicle.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the jail. He was very relaxed and carefree acting. He had poor coordination and balance and his speech was slow and deliberate.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect had an approximate 2” circular sway and estimated 30 seconds in 41 seconds. Walk & Turn: Suspect lost his balance during the instructions stage, started walking too soon, raised his arms for balance and failed to touch heel to toe on any of his steps. One Leg Stand: Suspect swayed while balancing, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on all six attempts and exhibited eyelid tremors.

8. CLINICAL INDICATORS: Suspect had a Lack of Convergence. His pupils were dilated in room light and direct light. He also had rebound dilation. His pulse and blood pressure were above the normal ranges.

9. SIGNS OF INGESTION: The suspect had a green coating on his tongue.

10. SUSPECT’S STATEMENTS: Suspect denied using drugs.

11. DRE’S OPINION: In my opinion Wright is under the influence of Cannabis and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: The suspect was also charged with possession of marijuana.
SESSION XXII

OVERVIEW OF SIGNS AND SYMPTOMS
Upon successfully completing this session the student will be able to:

- Describe the possible effects that may be observed in each major indicator of drug impairment.
- Identify the effects that will most likely be observed with subjects under the influence of each drug category.

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<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
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<td>A. The Major Indicators and Their Possible Effects</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Effects Associated With the Drug Categories</td>
<td>o Interactive Discussions</td>
</tr>
<tr>
<td>Possible Effects</td>
<td>Depress</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>HGN</td>
<td></td>
</tr>
<tr>
<td>VGN</td>
<td></td>
</tr>
<tr>
<td>Lack Conv</td>
<td></td>
</tr>
<tr>
<td>Pupil Size</td>
<td></td>
</tr>
<tr>
<td>React Light</td>
<td></td>
</tr>
<tr>
<td>Pulse Rate</td>
<td></td>
</tr>
<tr>
<td>Blood Press</td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td></td>
</tr>
</tbody>
</table>

**A. The Major Indicators and Their Possible Effects**

1. The major indicators of drug impairment are:

   - Point to the major indicators on the matrix.

**NOTE:** PRIOR TO THE START OF THIS SESSION, DRAW THE FOLLOWING MATRIX ON THE DRY ERASE BOARD OR FLIPCHART:

Total Lesson Time: Approximately 60 Minutes

Display Session Title
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
</table>
|      | a. Horizontal Gaze Nystagmus  
|      | b. Vertical Gaze Nystagmus  
|      | c. Lack of Convergence  
|      | d. Pupil Size  
|      | e. The Reaction of the Pupils to Light. | Point out that the first five major indicators all concern the eyes. |
|      | f. Pulse Rate  
|      | g. Blood Pressure  
|      | h. Body Temperature | Point out that the last three major indicators concern the vital signs. |

ANNOUNCE TO THE STUDENTS: WE WILL NOW REVIEW ALL OF THE POSSIBLE EFFECTS THAT WE MIGHT OBSERVE WITH EACH MAJOR INDICATOR.

2. Possible effects that might be observed with Nystagmus.

|      | a. With Horizontal Gaze Nystagmus, there are only two possible effects that might be observed.  
|      | o Either HGN will be **present**;  
|      | o or it will be **none**. | Under the "Possible Effects" column of the matrix, opposite "HGN", write: PRESENT OR NONE. |

Point out that there is no drug that stops Horizontal Gaze Nystagmus. Some drugs cause HGN to be present, others do not; but there is no drug that "cures" HGN.
b. With Vertical Gaze Nystagmus, there are also only two possible effects.
   o Either it will be present;
   o or it will be none.

3. For **Lack of Convergence**, there are also only two possible effects.
   a. Either Lack of Convergence will be present;
   b. Or it will be none.
   c. Just as with Nystagmus, there is no drug that "cures" Lack of Convergence.

4. For **Pupil Size**, there are three possible effects that might be seen.
   a. The pupils might be normal of size;
   b. or, the pupils might be dilated;
   c. or, they might be constricted.
5. There are a number of effects that might be observed in the pupils' Reaction to Light.

   a. The pupils might react in a normal manner, i.e. by constricting somewhat in one second or less.

   b. Or, the pupils might react slow, i.e. by constricting somewhat, but requiring more than one second to do so.

   c. In some instances, you may observe very little, or no visible reaction to light.

   d. If there is a visible reaction of the pupils, it is possible that two other effects might be seen.

      o Hippus, i.e. pupils rhythmically pulsating in size.

      o Rebound Dilation, i.e. a period of constriction followed by dilation with a change equal to or greater than 2 mm.

6. For each of the Vital Signs, there are three possible effects.

   a. The pulse rate, or blood pressure, or body temperature could be normal.

   b. Or, it could be UP.

Opposite "React Light", write:
NORMAL
OR
SLOW
OR
LITTLE TO NONE VISIBLE

Point out that we should not report that the "pupils did not react at all", but rather we should report "no visible reaction".

Opposite "Pulse Rate", write:
NORMAL
OR
UP
OR
DOWN
### B. Effects Associated with the Drug Categories

45 Minutes

1. CNS Depressants.
   a. HGN: **present**
   b. VGN: **present**
   c. Lack Conv: **present**
   d. Pupil Size: **normal**, except with the specific depressant Methaqualone and Soma, which **dilates** pupils.
   e. React Light: **slow**
   f. Pulse Rate: **down except** Methaqualone and ETOH, which may **elevate**.
   g. Blood Pressure: **down**

- c. Or, it could be **DOWN**.

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c. <strong>Or, it could be DOWN.</strong></td>
<td>Write exactly the same things opposite &quot;Blood Press&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Write exactly the same things opposite &quot;Body Temp&quot;.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solicit students' comments and questions about the possible effects of the eight major indicators.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ask for a student to volunteer to state the major effects that usually will be seen in a suspect under the influence of a CNS Depressant. Correct the students' statements, as necessary, and write the correct effects on the matrix, under the &quot;Depress.&quot; column.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>i.e. at high doses for that individual.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>h. Body Temp: <strong>normal</strong></td>
<td>Emphasize that these are the <strong>usual</strong> major effects that will be observed with CNS Depressants, but we cannot always be certain that all of these effects will be seen. Thank the &quot;volunteer&quot; student for their help.</td>
<td></td>
</tr>
<tr>
<td>2. CNS Stimulants</td>
<td>Pick another volunteer to state the usual major effects of CNS <strong>Stimulants</strong>. Correct the student's statements as necessary, and write the correct effects under the &quot;Stimul&quot; column.</td>
<td></td>
</tr>
<tr>
<td>a. HGN: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. VGN: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Lack Conv: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Pupil Size: <strong>dilated</strong></td>
<td>Emphasize that these are the effects <strong>usually</strong> seen with CNS Stimulants, but we can't guarantee that all of these effects will be observed in each and every case. Thank the &quot;volunteer&quot; student for his or her help.</td>
<td></td>
</tr>
<tr>
<td>e. React Light: <strong>slow</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Pulse Rate: <strong>up</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Blood Press: <strong>up</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Body Temp: <strong>up</strong></td>
<td>Select another volunteer to help with identifying the usual major effects of <strong>Hallucinogens</strong>.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3. Hallucinogens</td>
<td></td>
<td>Point out that &quot;Reaction to Light&quot; is the only major indicator that distinguishes Hallucinogens from CNS Stimulants, and &quot;Reaction to Light&quot; is a relatively subtle clue. For this reason, it can be very difficult to differentiate between these two categories.</td>
</tr>
<tr>
<td>a. HGN: none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. VGN: none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Lack Conv: none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Pupil Size: dilated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. React Light: normal, certain Psychedelic Amphetamines cause slow reaction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Pulse Rate: up</td>
<td></td>
<td>Thank the &quot;volunteer&quot; for their help with Hallucinogens. Pick another volunteer to help with Dissociative Anesthetics.</td>
</tr>
<tr>
<td>g. Blood Press: up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Body Temp: up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Dissociative Anesthetics</td>
<td></td>
<td>i.e. at high doses; however, it is more common to see Vertical Gaze Nystagmus in someone under the influence of a Dissociative Anesthetic.</td>
</tr>
<tr>
<td>a. HGN: present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. VGN: present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Lack Conv: present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Pupil Size: normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. React Light: normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Pulse Rate: up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Blood Press: <strong>up</strong></td>
<td></td>
<td>Thank the &quot;volunteer&quot; for their help.</td>
</tr>
<tr>
<td>h. Body Temp: <strong>up</strong></td>
<td></td>
<td>Select another volunteer to help with Narcotic Analgesics.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Narcotic Analgesics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. HGN: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. VGN: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Lack Conv: <strong>none</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Pupil Size: <strong>constricted</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. React Light: <strong>little or none visible</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Pulse Rate: <strong>down</strong></td>
<td></td>
<td>Thank the &quot;volunteer&quot; for their help with Narcotic Analgesics.</td>
</tr>
<tr>
<td>g. Blood Press: <strong>down</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Body Temp: <strong>down</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Inhalants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. HGN: <strong>present</strong></td>
<td></td>
<td>The vast majority of Inhalants will cause HGN; but it is possible that HGN would not be observed with a few specific Inhalants.</td>
</tr>
<tr>
<td>b. VGN: <strong>present</strong></td>
<td></td>
<td>High dose for that individual</td>
</tr>
</tbody>
</table>
c. Lack Conv: **present**

d. Pupil Size: **normal but may be dilated**

e. React Light: **slow**

f. Pulse Rate: **up**

g. Blood Press: **up/down**

h. Body Temp: **up/down/normal**

---

7. Cannabis

a. HGN: **none**

b. VGN: **none**

c. Lack Conv: **present**

d. Pupil Size: **dilated or possibly normal**

e. React Light: **normal**

f. Pulse Rate: **up**

---

The Volatile Solvents and the Aerosols usually cause blood pressure to be above normal; but the Anesthetic Gases can cause blood pressure to be below normal, even though they elevate the pulse rate.

Some Inhalants leave body temperature within the normal range; others may elevate the temperature.

Thank the "volunteer" for their help with Inhalants. Select another volunteer to help with **Cannabis**.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>g. Blood Press: <strong>up</strong></td>
<td>Thank the &quot;volunteer&quot; for their help with Cannabis.</td>
</tr>
<tr>
<td></td>
<td>h. Body Temp: <strong>normal</strong></td>
<td>Solicit students' comments or questions about the drug categories.</td>
</tr>
</tbody>
</table>

**REFER STUDENTS TO** the addendum at the end of this session is a small portion of the available scientific literature dealing with drug influence symptomatology. The sources are considered to be reliable sources of drug symptomatology.

Stress that not all symptoms associated with a drug category will be observed in all subjects in all cases. The excerpts from the references are consistent with DRE instruction and experience.
Session XXII

Overview of Signs and Symptoms

Upon successfully completing this session the students will be able to:

- Describe the possible effects that may be observed in each major indicator of drug impairment
- Identify the effects that will most likely be observed with subjects under the influence of each drug category

QUESTIONS?
COMPARISON OF DRE SYMPTOMATOLOGY WITH CROSS SECTION OF DRUG SYMPTOMATOLOGY SOURCES

CNS DEPRESSANTS:

DRE Symptomatology:
Nystagmus decreased pulse
decreased blood pressure uncoordinated
disoriented sluggish
thick slurred speech drunk-like appearance


Nystagmus Strabismus
difficulty in visual accommodation ataxia gait
vertigo Hypotonia
positive Romberg sign Diplopia
Dysmetria difficulty in thinking
sluggishness poor comprehension
slowness, slurring of speech faulty judgement
poor memory
emotional lability


Drug Abuse and Dependence, Grinspoon, Lester,MD; Bakalar,James B., Harvard Medical School Mental Health Review No. 1 (1990), page 11: sedative hypnotics same as alcohol and other depressants
**Drugs of Abuse**, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey (1989), page 72: Benzodiazepines same as barbiturate effects; pages 247; 292): Barbiturates:

- Nystagmus
- depressed pulse
- depressed blood pressure
- diminished concentration
- incoordination
- decreased reaction time


**Diagnostic and Statistical Manual of Mental Disorders** (Third Ed, Revised), American Psychiatric Association (1987), p. 159

- Maladaptive behavioral changes, e.g., disinhibition of sexual or aggressive impulses, mood lability, impaired judgment, impaired social or occupational functioning.
- slurred speech
- incoordination
- unsteady gait
- impairment in attention or memory

**CNS STIMULANTS**:

**DRE Symptomatology**:
- dilated pupils
- increased pulse rate
- increased temperature
- increased blood pressure
- body tremors
- restlessness
- excited
- euphoric
- talkative
- exaggerated reflexes
- anxiety
- grinding teeth
- redness to nasal area
- runny nose
- loss of appetite
- insomnia
- increased alertness

**The Pharmacological Basis of Therapeutics**, Seventh Edition,


**Medical Toxicology-Diagnosis and Treatment of Human Poisoning**, Ellenhorn, Matthew J., Barceloux, Donald G. Elsevier Science Pub. Co. 1988, Amphetamines, Page 634:

- Mild influence:
  - Mydriasis
  - hyperreflexia
restlessness talkativeness
irritability insomnia
tremor flushing
Diaphoresis combativeness
nausea vomiting
pallor dry mucous membranes

Moderate:
hyperactivity confusion
hypertension Tachypnea
Tachycardia premature ventricular contraction
chest discomfort vomiting
abdominal pain Profuse Diaphoresis
mild temperature elevation
impulsivity repetitive behavior hallucinations
panic reactions

Serious:
delirium marked Hypertension/Tachycardia
Hyperreflexia convulsions
Hypotension coma

Cocaine, page 650-659

Early Stimulation:
euphoria Garrulity
excitement apprehension
irritable behavior Mydriasis
sudden headache nausea
vomiting dizziness
twitching of small muscles tics
abdominal pain jerks
Cocaine Psychosis hallucinations
elevation of pulse increased respiration

Advanced:
convulsions Hyperreflexia
decreased consciousness increased pulse and blood pressure

Later Stages:
Hypotension Hypothermia
Dyspnea et al

HS 172 R1/07 3

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilation of pupils</td>
<td>Increased blood pressure</td>
</tr>
<tr>
<td>Slight tremor</td>
<td>Restlessness</td>
</tr>
<tr>
<td>Agitation</td>
<td>Possibly hallucinations</td>
</tr>
</tbody>
</table>

**Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment,** (3rd Ed., Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989, page 99: CNSS cause:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilation of pupils</td>
<td>Rapid heart rate</td>
</tr>
<tr>
<td>Elevation of blood pressure</td>
<td>Tremor in hands</td>
</tr>
<tr>
<td>Increased body temperature</td>
<td>Restlessness</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilation of pupils</td>
<td>Increase heart rate</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Flushing</td>
</tr>
<tr>
<td>Teeth grinding</td>
<td>Dry mouth</td>
</tr>
<tr>
<td>Tremors</td>
<td>Lack of coordination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilation of pupils</td>
<td>Increased heartbeat</td>
</tr>
<tr>
<td>Increased temperature</td>
<td>Similar to Amphetamine</td>
</tr>
</tbody>
</table>

**Drug Abuse and Dependence,** Grinspoon, Lester, MD; Bakalar, James B., Harvard Medical School Mental Health Review No. 1 (1990), pages 8 and 10 Cocaine and Amphetamine:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilated pupils</td>
<td>Increased pulse</td>
</tr>
<tr>
<td>Increased blood pressure</td>
<td>Vasoconstriction</td>
</tr>
<tr>
<td>Agitation tremors</td>
<td>Increased temperature</td>
</tr>
</tbody>
</table>

**Drugs of Abuse,** Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey(1989), page 29 Amphetamines:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupil dilation (Mydriasis)</td>
<td>Increased pulse rate</td>
</tr>
<tr>
<td>Elevated blood pressure</td>
<td>Hyperactive</td>
</tr>
<tr>
<td>Talkative</td>
<td>Irritable</td>
</tr>
<tr>
<td>Restless</td>
<td>Anorexia</td>
</tr>
</tbody>
</table>
tremors urinary retention
teeth grinding (Bruxism) fidgety, jerky, random motions
illogical, loose thoughts

Page 295: Cocaine:

dilated pupils Tachycardia
increased blood pressure vasoconstriction
Hyperpyrexia


increased pulse increased blood pressure
possibly increased temperature increased wakefulness
general increase in psychomotor activity

page 145: Cocaine

Mydriasis (dilated pupils); may cause psychosis
euphoria agitation


COCaine:
Maladaptive behavioral changes, e.g., euphoria, fighting, grandiosity, hyper-vigilance, psychomotor agitation, impaired judgment, impaired social or occupational functioning.

pupillary dilation Tachycardia
elevated blood pressure perspiration or chills
nausea or vomiting visual or tactile hallucinations

AMPHETAMINE
Maladaptive behavioral changes, e.g., fighting, grandiosity, hyper-vigilance, psychomotor agitation, impaired judgment, impaired social or occupational functioning.
pupillary dilation Tachycardia
elevated blood pressure perspiration or chills
nausea or vomiting
HALLUCINOGENS:

DRE Symptomatology:
dilated pupils increased pulse rate
increased blood pressure increased temperature
dazed appearance body tremors
Synesthesia hallucinations
paranoia uncoordinated
nausea disoriented
difficulty in speech perspiring
poor perception of time/distance


pupillary dilation increased blood pressure
Tachycardia Hyperreflexia
muscular weakness
tremor nausea
Piloerection hallucinations
increased body temperature Synesthesia
Hyper vigilance
do not mention
loss of boundaries

Medical Toxicology-Diagnosis and Treatment of Human Poisoning, Ellenhorn, Matthew J., Barceloux, Donald G. Elsevier Science Pub. Co. 1988, LSD, pages 667-669:
pupillary dilation increased heart rate
increased body temperature Piloerection
weakness tremor
Hyperreflexia Ataxia
hallucinations depersonalization
poor judgment mood swings


Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment, (3rd Ed.), Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989 page 160:
dilated pupils increased blood pressure
increased awareness faltered body images
sensory input fine tremor
flushed face increased body temperature

- dilated pupils
- increased blood pressure
- profuse perspiration
- hallucinations
- increased heart rate
- increased temperature
- loss of appetite

Drug Abuse and Dependence, Grinspoon, Lester, M.D; Bakalar, James B., Harvard Medical School Mental Health Review No. 1 (1990)

Drugs of Abuse, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey (1989), page 218: LSD:

- Ataxia
- Hyperreflexia
- Tachycardia
- high blood pressure
- incoordination


Maladaptive behavioral changes, e.g., marked anxiety or depression, ideas of reference, fear of losing one's mind, paranoid ideation, impaired judgment, impaired social or occupational functioning.

Perceptual changes occurring in a state of full wakefulness and alertness, e.g., subjective intensification of perceptions, depersonalization, derealization, illusions, hallucinations, Synesthesia

- pupillary dilation
- sweating
- blurring of vision
- incoordination
- Tachycardia
- palpitations
- tremors

DISSOCIATIVE ANESTHETICS (PHENCYCLIDINE)

DRE Symptomatology:

- Nystagmus
- increased blood pressure
- perspiring
- increased pulse
- increased temperature
- warm to the touch
blank stare          early onset of nystagmus
"moon walking"       difficulty in speech
incomplete responses repetitive response
repetitive speech    increased pain threshold
cyclic behavior     confused, agitated
hallucinations      possibly violent and combative


Nystagmus                elevated heart rate
elevated blood pressure feeling of intoxication
staggering gait          slurred speech
numbness of extremities  sweaty
muscular rigidity        blank stare
drowsiness               hostile behavior
repetitive movements

Medical Toxicology-Diagnosis and Treatment of Human Poisoning, Ellenhorn, Matthew J., Barceloux, Donald G. Elsevier Science Pub. Co. 1988, PCP 768-777:

Nystagmus                Miosis
depressed light reflexes blurred vision
diminished pain          Ataxia
tremors                  muscle weakness
slurred speech           drowsiness
increased pulse rate     increased blood pressure
Amnesia                  anxiety/agitation
body image distortion   euphoria
depersonalization        disordered thought processes
hallucinations


increased blood pressure blank stare
disinhibition            mood swings
muscle rigidity          agitation
delirium excitement     disorientation
hallucinations           analgesia
speech difficulty        pain tolerance
elevated blood pressure

Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment, (3rd Ed.), Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989 p. 178
sweating  muscle rigidity
fever convulsions  increased blood pressure


Nystagmus  increased blood pressure
increased pulse rate  flushing
mood swings  hallucinations
changes in body awareness  speech difficulties
violent behavior  decreased responsiveness

Drug Abuse and Dependence, Grinspoon, Lester, M.D.; Bakalar, James B., Harvard Medical School Mental Health Review No. 1 (1990), page 25: PCP:

body image distortions  increased blood pressure
Nystagmus  muscle rigidity
loss of muscle control  incoherent speech
memory loss drooling  blank stare

Drugs of Abuse, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey(1989) page 296: PCP:

Nystagmus  disorientation
hallucination  extreme agitation
loss of motor control  disassociation from
automated speech  environment
Nystagmus at rest


Ataxia  tremors,
muscular hypertonicity  Hyperreflexia
Ptosis  Tachycardia
Horizontal Gaze, Vertical Gaze and Rotary Nystagmus
elevated blood pressure
mood swings

Maladaptive behavioral changes, e.g., belligerence, assaultiveness, impulsiveness, unpredictability, psychomotor agitation, impaired judgment, impaired social or occupational functioning.

Vertical or Horizontal Gaze Nystagmus
increased blood pressure or heart rate
numbness or diminished responsiveness to pain.
Ataxia
Dysarthria (slurred speech)
muscle rigidity
seizures
Hyperacusis

**NARCOTICS:**

DRE Symptomatology:
constricted pupils          decreased pulse rate
decreased blood pressure    decreased temperature
Ptosis (droopy eyelids)     "on the nod"
drowsiness                  depressed reflexes
low, raspy speech           dry mouth
facial itching              euphoria
fresh puncture marks


constructed pupils          decreased blood pressure
drowsiness                  Dysphoria
mental clouding              sedation
depressed respiration        Analgesia
euphoria

Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment, (3rd Ed., Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989

Decrease pain (p.6)

- constricted pupils
- reduced heart rate
- Analgesia
- depressed appetite
- euphoria
- going "on the nod"

Drug Abuse and Dependence, Grinspoon, Lester, MD; Bakalar, James B., Harvard Medical School Mental Health Review No. 1 (1990), page 14: Narcotics:

- constricted pupils
- "nodding off"
- dreamy state
- pain suppression
- euphoria

Drugs of Abuse, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey (1989) page 293 - 294:

- Miosis (constricted pupils)
- Bradycardia (decreased heart beat)
- Hypothermia
decreased temperature)
- euphoria/dysphoria
drowsiness lethargy
depressed respiration
- flaccid muscle tone


- Miosis (constricted pupils)
- low blood pressure
- itching
- flushing sweating


Maladaptive behavioral changes, e.g., initial euphoria followed by apathy, dysphoria, psychomotor retardation, impaired judgment, impaired social or occupational functioning.

- pupillary constriction
- drowsiness
- slurred speech
- impairment in attention or memory

INHALANTS: (Toluene)

DRE Symptomatology:
Nystagmus
increased pulse rate
increased blood pressure residue around nose
odor on mouth nausea disorientation
slurred speech confusion


Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment, (3rd Ed., Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989. p. 185

decreased inhibitions floating sensation
drowsiness light sensitivity
sneezing runny nose


lowered inhibitions restlessness
incoordination confusion disorientation
nausea impaired judgment

Drug Abuse and Dependence, Grinspoon, Lester,MD; Bakalar,James B., Harvard Medical School Mental Health Review No. 1 (1990)

Drugs of Abuse, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey(1989), pages 265, 272, 297: Toluene:

Nystagmus mental dulling
tremors cerebellar Ataxia
rambling speech irritability
light headedness tremors
CNS depression that mimics Ataxia
Narcotic Analgesics
blank stare
euphoric mood


brief euphoria
giddy intoxication, similar to alcohol
CNS depression (volatile solvents/toluene)
dizziness
Vertigo

Diagnostic and Statistical Manual of Mental Disorders (Third Ed, Revised), American Psychiatric Association (1987), p. 149.

Maladaptive behavioral changes, e.g., belligerence, assaultiveness, apathy, impaired judgment, impaired social or occupational functioning.

Nystagmus           dizziness
incoordination      slurred speech
unsteady gait       lethargy
depressed reflexes  psychomotor retardation
tremor generalized muscle  blurred vision or diplopia
stupor or coma      weakness

CANNABIS

DRE Symptomatology:
dilated pupils       marked reddening of conjunctivae
odor of Marijuana    debris in mouth
body tremors         eyelid tremors
relaxed inhibitions  increased appetite
paranoia             disorientation
impaired perception of time and distance

euphoria             short term memory impairment
temporal disintegration balance and stance impairment
information processing impairment increased hunger
dry mouth            additive to alcohol

Lower doses
affects perception, impairing well beyond when subject subjectively feels effects;
alters all information processing; relatively simple motor skills unaffected

High doses:
anxiety              hallucinations
increased heart rate  increased systolic blood pressure
marked reddening of Conjunctiva simple motor skills affected

Medical Toxicology-Diagnosis and Treatment of Human Poisoning, Ellenhorn, Matthew J., Barceloux, Donald G. Elsevier Science Pub. Co. 1988; Cannabis, page
reddening of Conjunctiva alteration in mood
motor coordination impairment euphoria
relaxation sleepiness
temporal distortion decrease in balance, steadiness and
(time slows) muscle strength
impairment of motor tasks and reaction times requires higher
dosages
loss of short term memory elective attention
systematic thinking impaired stimulated appetite
dry mouth


reddening of Conjunctiva
increased blood pressure
dry mouth
altered sensory perception

Drug and Alcohol Abuse, A Clinical Guide to Diagnosis and Treatment, (3rd Ed. , Schuckit, M.D., Mark A. Plenum Medical Book Co, New York 1989, page 145: Cannabis:

red Conjunctiva euphoria
dry mouth
increased heart rate possibly Nystagmus
time distortion short term memory
impairment in ability to do tremors
multi-step tasks
decrease level of motor coordination


red eye increased appetite
increased heart beat time and space distortions
dryness of mouth and throat increased heart rate
increased pulse rate lack of coordination

Drug Abuse and Dependence, Grinspoon, Lester,MD; Bakalar,James B., Harvard Medical School Mental Health Review No. 1 (1990).page 19: Marijuana:
increased appetite  faster heartbeat  
bloodshot eyes  confusion  
agitation  incoordination  
hallucinations

**Drugs of Abuse**, Giannini, A. James, M.D.; Slaby, Andrew E. M.D., Ph.D. Medical Economics Books, Oradell, New Jersey (1989), page 296: Cannabis:

- red Conjunctiva
- increased appetite
- pleasant relaxation
- intensification of sensations
- slowed time
- passivity
- apathy
- Tachycardia (increased heart rate)
- problems with motor coordination


- red Conjunctiva
- increased hunger
- changes in time sense
- short-term memory loss
- memory
- dry mouth
- coordination
- Tachycardia (rapid heart beat)
- balance and stance
- elevated systolic pressure affected

**Diagnostic and Statistical Manual of Mental Disorders** (Third Ed, Revised), American Psychiatric Association (1987), p. 140.

Maladaptive behavioral changes, e.g., euphoria anxiety, suspiciousness, or paranoid ideation, sensation of slowed time, impaired judgment, social withdrawal.

- red Conjunctiva
- increased appetite
- Tachycardia (rapid heart)
- dry mouth
SESSION XXIII

CURRICULUM VITAE PREPARATION AND MAINTENANCE
SESSION XXIII  CURRICULUM VITAE PREPARATION AND MAINTENANCE

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

- Describe and discuss the purpose of the DRE Curriculum Vitae.
- Identify the elements of a DRE Curriculum Vitae.
- Prepare a basic Curriculum Vitae summarizing their relevant training, education, experience and accomplishments to date.
- Update and extend the Curriculum Vitae, as their relevant achievements continue to expand.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Purpose of the Curriculum Vitae</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Preparation for Court Qualification</td>
<td>o Group Work session</td>
</tr>
<tr>
<td>C. Curriculum Vitae Content</td>
<td>o Reading Assignments</td>
</tr>
<tr>
<td>D. Guidelines for Curriculum Vitae Preparation and Maintenance</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>10 Minutes</td>
<td>CURRICULUM VITAE PREPARATION AND MAINTENANCE</td>
</tr>
<tr>
<td>XXIII-1 (Title)</td>
<td></td>
</tr>
<tr>
<td>XXIII-2 (Objectives)</td>
<td></td>
</tr>
<tr>
<td>XXIII-3 (Witness)</td>
<td></td>
</tr>
</tbody>
</table>

A. **Purpose of the Curriculum Vitae**

1. The basic purpose of the Curriculum Vitae is to record education, training and experience in a single document for use in establishing qualifications when testifying in court.

2. Generally a witness can testify only to personal knowledge. **Point out** that this generally consists of facts which they observed or witnessed.

3. Witness cannot give an opinion on a matter. **Point out** that opinions are allowed only if the witness is qualified as an expert.

4. Basic rule is that a person skilled in some art, trade, science or profession, having a knowledge of matters not within (People vs. Willis, 70 Cal APP. 465)
the knowledge of persons of average education, learning and experience, may assist the jury in arriving at a verdict by expressing an opinion on a state of facts shown by the evidence and based upon his or her special knowledge.

5. A witness is not qualified as an expert witness unless it is shown he or she is familiar with the subject upon which he or she is asked to give an opinion. (People vs McLean, 56 Cal 2d 660)

6. Only the court can determine whether a witness is qualified to testify as an expert. (People vs Perry, 44 Cal 2d 861)

7. Where a witness is qualified to give expert testimony, any question as to degree of knowledge goes to weight rather than admissibility.

8. Witnesses' qualification is achieved through Voir Dire Examination.

Voir Dire - literally, French for "to see, to say"; loosely translated as "to seek the truth").

B. Preparation for Court Qualification

1. Being qualified as an expert may be as simple as stating your occupation, or take several hours of exhausting questioning by both the prosecutor and the defense attorney.

2. Although knowledge only
greater than what the public has is required to qualify you as an expert, your testimony will carry much more "weight" if you have good credentials.

3. Accurate, up to date information is essential for an officer who is called upon to give his or her qualifications as an expert in any field.

Point out that it is imperative that each officer maintain an ongoing Curriculum Vitae to establish their credentials as an expert.

4. Drug Recognition Experts will base their expertise on the following areas:

   a. Formal education and training
   b. Relevant Experience
   c. Outside readings and studies

C. **Curriculum Vitae Content**

1. Formal education.

   a. High school(s) attended
      - list dates - highlight classes which provided knowledge in the area of drugs.
   
   b. Colleges and Universities attended.
      - list dates, major, degree, etc. highlight classes which provided knowledge in the
### Aids | Lesson Plan | Instructor Notes
---|---|---

**c. Specialized College or University level courses.**

**2. Formal training.**

a. Police Academy (recruit training)

b. Specialized police training or in-service training.

c. Other specialized training:
   - military training
   - lectures and seminars

**3. Experience**

a. Job experience - years

b. Assignments

c. Prior law enforcement experience

d. Other job related experience

e. Drug enforcement/evaluation experience:

---

area of drugs.

- list dates, instructor, subject(s) covered, credits, etc.

- list dates, length, major topics covered, etc. Highlight classes which provided knowledge or skills in the area of drugs.

- list dates, length, instructor(s), subject(s) covered, etc. Highlight training which provided knowledge or skills in the area of drugs.

- list dates, length, instructor(s), subject(s) covered, etc. Highlight training which provided knowledge or skills in the area of drugs.

- list dates, division, duties, etc., include loans to specialized units.

- list agencies, dates, assignments, etc.

- list employer, dates, duties, assignments, etc. which provided experience in the area of drugs.

Point out that it is important to maintain accurate records of all enforcement activities;
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o total vehicle stops</td>
<td>documentation of the ratio of stops to investigations and investigations to arrests is essential. Not all stops result in arrests; demonstrates that the officer is fair and impartial and that each case is decided on individual merits.</td>
</tr>
<tr>
<td></td>
<td>o total DWI investigations</td>
<td></td>
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<tr>
<td></td>
<td>o total DWI arrests</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o total drug evaluations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o total filings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o total convictions</td>
<td></td>
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<tr>
<td></td>
<td>f. Prior testimony:</td>
<td>o list date, court, judge, charge, area qualified, etc.</td>
</tr>
<tr>
<td></td>
<td>o municipal court</td>
<td></td>
</tr>
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<td></td>
<td>o superior court</td>
<td></td>
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<tr>
<td></td>
<td>o number of times qualified as an expert in drug cases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o number of times qualified as an expert in other cases</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Outside readings and studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Drug related texts read</td>
<td>o list title(s), author(s), subject(s), etc.</td>
</tr>
<tr>
<td></td>
<td>b. Departmental training bulletins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Journals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Research papers</td>
<td></td>
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<tr>
<td></td>
<td>e. Drug related videos viewed</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Training or research conducted (if applicable)</td>
<td>o list classes, briefings, training officer assignments, etc. where you served as an instructor or coach, etc. or conducted or participated in research, e.g. Alcohol workshop.</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>6. Published Works (if applicable)</td>
<td>o list all relevant writings that you authored or co-authored, including departmental briefing papers, training manuals/bulletins, magazines articles, books, etc.</td>
</tr>
<tr>
<td></td>
<td>D. Guidelines for Curriculum Vitae Preparation and Maintenance</td>
<td>Refer students to sample Curriculum Vitaes’ in their manuals and review steps for preparing the Curriculum Vitae and keeping it up to date.</td>
</tr>
<tr>
<td></td>
<td>1. List information in chronological order.</td>
<td>Review the sample Curriculum Vitaes’ briefly with the students.</td>
</tr>
<tr>
<td></td>
<td>2. Review and update Curriculum Vitae frequently and record date of review.</td>
<td></td>
</tr>
</tbody>
</table>

15 Minutes
Session XXIII
Curriculum Vitae
Preparation and Maintenance

Curriculum Vitae
Preparation and Maintenance
Upon successfully completing this session the student will be able to:
- Describe and discuss the purpose of the DRE Curriculum Vitae
- Identify the elements of a DRE Curriculum Vitae
- Prepare a basic Curriculum Vitae summarizing relevant training, education, experience and accomplishments to date
- Update and extend the Curriculum Vitae as relevant achievements continue to expand

Witness
- Generally can testify only to personal knowledge - facts which they observed or witnessed
- Cannot give an opinion

Expert Witness
- Basic rule - person skilled in some art, trade, science, or profession, having knowledge of matters not within knowledge of persons of average education, learning and experience
- May assist jury in arriving at a verdict by expressing an opinion on a state of facts shown by the evidence and based upon their special knowledge

Expert Witness
**ONLY** the court can determine whether a witness is qualified to testify as an expert

Voir Dire:
To seek the truth (Literally, “To see, to say”)
Expertise/Qualifications

Based on:
• Formal Education and Training
• Experience
• Outside readings and studies

Curriculum Vitae Content

• Formal education
• Formal training
• Experience
• Prior testimony
• Outside readings and studies
• Training/research conducted
• Published works

QUESTIONS?
SAMPLE CURRICULUM VITAE NUMBER ONE

SHELTON POLICE DEPARTMENT

Traffic Division

The Curriculum Vitae of:

SERGEANT DAVID CARROLL REGAN
Drug Recognition Expert

Latest update: 3/17/XX
Sgt. David C. Regan

Introduction

Sergeant David Carroll Regan is a supervisor in the Traffic Division, Shelton Police Department. He currently commands the special Impaired Driving Enforcement Activities Squad (IDEAS), a unit he was instrumental in forming. Sgt. Regan is a 15 year veteran of law enforcement. Prior to joining the Shelton Police Department ten years ago, he served for five years as a deputy with the Fairfield County Sheriff's Department.

Sergeant Regan has been assigned to the Traffic Division since his promotion to sergeant on 11/18/YY. His duties have included coordination of speed and DWI enforcement activities, the Joint Shelton-Derby Task Force for Sobriety Checkpoints, the Officer Friendly Program, the Motorcycle Safety Education Project, and general supervision of Traffic Division officers. He also serves as the Department's principal instructor for radar speed measurement, Standardized Field Sobriety Testing and Drug Recognition Expert training.

Sergeant Regan holds a Bachelor's Degree in the Administration of Justice from Fairfield University, and currently is a candidate for a Master's Degree in Police Science and Administration at the University of Stratford. He also holds an Instructor Certificate from the State Law Enforcement Training Board.

Sergeant Regan has served on two committees of the Governor's Task Force to Prevent Drunk Driving: The Standardized Field Sobriety Tests Committee and The Paperwork Reduction Committee. The one page Standard Notetaking Guide for Field Sobriety Testing that is employed by all departments statewide was designed by him.

Law Enforcement Experience

11/18/YY to Present
Sergeant, Traffic Division
Shelton Police Department Supervisor, IDEAS Unit
Drug Recognition Expert Program Coordinator

7/8/ZZ to 11/17/YY
Patrol Officer First Class
Training and Operations
Shelton Police Department
Unit Supervisor, Traffic Law Enforcement Training Branch

9/11/XX to 7/7/ZZ
Patrol Officer
Third Precinct, Motorcycle
Shelton Police Department
Sgt. David C. Regan

Law Enforcement Experience (continued)

11/5/MM to 9/10/XX  Patrol Officer
   First Precinct
   Shelton Police Department

10/10/NN to 11/4/MM  Deputy
   Traffic Patrol
   Fairfield County Sheriff’s Department

Special Police Training

10/XX  NHTSA/IACP
   DRE Instructor Training
   (Certified as a DRE Instructor on 11/12/XX)

8/XX  Drug Enforcement Administration
   Drug Interdiction Seminar

11/YY  NHTSA/IACP
   Drug Evaluation and Classification Training: DRE School
   (Certified as a DRE on 1/28/XX)

10/YY  NHTSA/IACP
   Drug Evaluation and Classification Training: PRE School

3/YY  Southeastern University Institute of Police Technology
   Special Conference: Managing DWI Squads

4/ZZ  International Association of Chiefs of Police
   Instructor Training in Horizontal Gaze Nystagmus and
   Divided Attention Field Sobriety Tests

10/MM  University of Stanford, Northern Police Institute
   Standardized Field Sobriety Testing

6/NN  Acme Scientific Instruments, Inc.
   (Certified to perform inspection and repair of the Intoxotector J2Z
    breath testing instrument on 6/22/NN)
Sgt. David C. Regan

Court Qualification Record

8/VV Qualified as Drug Recognition Expert in a case involving Phencyclidine impairment. (Judge Sally Grey, 8th District)

11/WW Qualified as Drug Recognition Expert in a case involving a combination of CNS Stimulant and Narcotic Analgesic. (Judge Lewis Buchanan, Superior Court)

3/WW Qualified as Drug Recognition Expert in a case involving Cannabis impairment. (Judge Sally Grey, 8th District)

9/UU Qualified as Drug Recognition Expert in a case involving Narcotic Analgesic impairment. (Judge Jerome Byrnes, 8th District)

Specialized Readings

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug and Alcohol Abuse</td>
<td>Marc A. Schuckit, M.D.</td>
</tr>
<tr>
<td>A Primer of Drug Action</td>
<td>Jerome Jaffee, Robert Petersen and Ray Hodgson</td>
</tr>
<tr>
<td>The Practitioner's Guide to Psychoactive Drugs</td>
<td>Ellen L. Bassuk, M.D. and Stephen C. Schoonover, M.D.</td>
</tr>
<tr>
<td>Drug Abuse: A Manual for Law Enforcement Officers</td>
<td>Smith, Kline &amp; French (pub.)</td>
</tr>
<tr>
<td>Licit and Illicit Drugs</td>
<td>Edward M. Brecher</td>
</tr>
<tr>
<td>Chocolate to Morphine</td>
<td>Andrew Weil, M.D. and Winifred Rosen</td>
</tr>
<tr>
<td>Cocaine Addiction</td>
<td>U.S. Department of Health and Human Services</td>
</tr>
<tr>
<td>Marijuana Alert</td>
<td>Peggy Mann</td>
</tr>
</tbody>
</table>
SAMPLE Curriculum Vitae NUMBER TWO

TRUMBULL POLICE DEPARTMENT

The Curriculum Vitae of:

OFFICER ANN MARIE REED
Drug Recognition Expert

Latest Update: 4/25/YY
Officer Ann M. Reed

Introduction
Officer Ann Marie Reed is an eight year veteran with the Trumbull Police Department. She is currently assigned to the Special Operations Branch of the Administrative Division, where she serves as a Narcotics Enforcement Officer. Previously, she has served in the same Branch as a Vice Enforcement Officer, and as a patrol officer in the Department's first and second precincts.

Officer Reed is a graduate of Monroe College, with the Bachelor's Degree in Police Science and Administration. She is currently a candidate for the JD Degree at the Law School of the University of Bridgeport.

Law Enforcement Experience

5/12/VV to Present  Narcotics Enforcement Officer and Drug Recognition Expert
Special Operations Branch
Trumbull Police Department

3/26/WW to 5/11/VV  Vice Enforcement Officer Special Operations Branch
Trumbull Police Department

9/23/XX to 3/25/WW  Patrol Officer
First Precinct
Trumbull Police Department

8/28/NN to 9/22/XX  Patrol Officer
Second Precinct
Trumbull Police Department

5/15/NN to 8/25/NN  Trainee
Fairfield County Regional Police Academy
(Graduated 8/25/NN)

Special Police Training

2/YY  University of Norwalk, Police Science Institute
Seminar: Packaging and Transport of Illicit Drugs

10/VV  University of Norwalk, Police Science Institute
Seminar: Suppression of Drug-related Crime

3/VV  NHTSA/IACP
Drug Evaluation and Classification Training: DRE School
(Certified as a DRE on 5/22/VV)
Officer Ann M. Reed

Special Police Training (Continued)

2/VV
Fairfield County Regional Police Academy
Drug Evaluation and Classification Training: PRE-School

10/WW
Fairfield County Regional Police Academy
Standardized Field Sobriety Testing

Publications Authored

Reed, Ann M., Procedures for Requesting Drug Recognition Expert Services; Training Bulletin for the Trumbull Police Department. 6/VV.

Reed, Ann M., Recognizing the Heroin Addict; Training Bulletin for the Trumbull Police Department. 1/VV.

Court Qualification Record

11/WW
Qualified as an expert witness for identification of Heroin impairment. (Judge Michael Adkins, 7th District)

3/WW
Qualified as a Drug Recognition Expert in a case involving a combination of CNS Stimulant and Narcotic Analgesic. (Judge Roberta Mayer, 7th District)

9/ZZ
Qualified as an expert witness for identification of "track" marks. (Judge Charles Peltier, 7th District)

Specialized Readings

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs and Symptoms Handbook</td>
<td>Barbara McVan, M.D.</td>
</tr>
<tr>
<td>Drugs From A to Z</td>
<td>Richard R. Lingeman</td>
</tr>
<tr>
<td>Guide to Psychoactive Drugs</td>
<td>Richard Seymour and David E. Smith, M.D.</td>
</tr>
<tr>
<td>Addictions: Issues and Answers</td>
<td>Robert M. Julien, M.D.</td>
</tr>
<tr>
<td>Report on Synthetic China White: Fentanyl</td>
<td>Det. James Miller, LAPD</td>
</tr>
</tbody>
</table>


SESSION XXIV

DRUG COMBINATIONS
SESSION XXIV  DRUG COMBINATIONS

Upon successfully completing this session the students will be able to:

- Explain the prevalence of polydrug use among drug impaired subjects and identify common combinations of drugs abused by those subjects.
- Describe the possible effects that combinations of drugs can produce on the major indicators of drug impairment.
- Define the terms "Null", "Overlapping", "Additive" and "Antagonistic" as they relate to polydrug effects.
- Identify the specific effects that are most likely to be observed in persons under the influence of particular drug combinations.

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The Prevalence of Polydrug Use</td>
<td>o Instructor Led Presentations</td>
</tr>
<tr>
<td>B. Possible Effects of Drug Combinations</td>
<td>o Interactive Discussions</td>
</tr>
<tr>
<td>C. Identifying Expected Indicators of Specific Combinations</td>
<td>o Workbook Exercise</td>
</tr>
<tr>
<td></td>
<td>o Video Presentations</td>
</tr>
</tbody>
</table>
## Aids Lesson Plan Instructor Notes

<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="72x38" alt="Image" /></td>
<td><strong>DRUG COMBINATIONS</strong></td>
<td>Total Lesson Time: Approximately 110 Minutes</td>
</tr>
<tr>
<td><strong>10 Minutes</strong></td>
<td></td>
<td>Display Session Title</td>
</tr>
<tr>
<td><img src="72x628" alt="Image" /></td>
<td></td>
<td>Briefly review the objectives, content and learning activities of this session.</td>
</tr>
<tr>
<td><img src="72x562" alt="Image" /></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="72x470" alt="Image" /></td>
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<td><img src="72x456" alt="Image" /></td>
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<tr>
<td><img src="94x708" alt="Image" /></td>
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</tbody>
</table>

### A. The Prevalence of Polydrug Use

1. Polydrug use means ingesting drugs from two or more drug categories.

2. It is actually more common for a DRE to encounter polydrug users than single drug users.

   a. In the Los Angeles Field Study (1985), 72% of the suspects had two or more drugs in them.

   b. In that study, alcohol was often found in combination with one or more other drugs.

   c. But even if we discount alcohol, nearly half (45%) of the Field Study suspects had two or more other drugs in them.

   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.
d. Data collected from the national DRE database from DREs throughout the U.S. indicates that approximately 25% of all cases with toxicology resulted in two or more drug categories detected.

Source: Pacific Institute of Research and Evaluation (PIRE), 2005.

Emphasize: Not all states are represented in the database. The 25% may be low. DRE’s nationwide need to be entering their evaluations in the national DRE database. Contact your state coordinator.

3. Common combinations of drugs.

a. Cocaine and Cannabis.

b. Cocaine and Heroin.

c. PCP and Cannabis.

Point out that virtually any possible drug combinations may be encountered by the DRE.

4. Many of the suspects you examine will be exhibiting the effects of two or more drugs acting together.

Solicit students' comments and questions about the prevalence of polydrug use.

B. Possible Effects of Drug Combinations

1. Let us examine the possible ways in which two drugs might interact.

NOTE: AT THIS TIME DRAW THE FOLLOWING MATRIX ON THE DRY ERASE BOARD:
### Aids Lesson Plan

<table>
<thead>
<tr>
<th>Pupil Size</th>
<th>Possible Effects of Drug Number 1</th>
<th>Possible Effects of Drug Number 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>normal</td>
<td>normal</td>
</tr>
<tr>
<td></td>
<td>dilated</td>
<td>dilated</td>
</tr>
<tr>
<td></td>
<td>constricted</td>
<td>constricted</td>
</tr>
</tbody>
</table>

2. Our specific example will focus on pupil size; there are four situations that could occur.

   a. Situation #1: Neither drug affects pupil size.

   o drug #1 leaves pupil size in the normal range.

   o drug #2 also leaves pupil normal.

   o the combination also will leave pupil size normal.

   **XXIV-6** (Situation #1)

   Point out a general principle: If neither drug affects a major indicator, the combination of those two drugs also will not affect that indicator.

   **Clarification of "Null Effect":** The combination of no action plus no action equals no action.

   b. Situation #1 is called the Null Effect.

   c. Specific examples of the Null Effect:

   o Pupil Size: Neither PCP nor Valium affects pupil
Aids | Lesson Plan | Instructor Notes
---|---|---
size; the combination of PCP and Valium will not affect pupil size.
o Body Temp: Neither Alcohol nor Marijuana usually affects body temperature; the combination of Alcohol and Marijuana usually leaves body temperature normal.
o HGN: Neither Cocaine nor Heroin will cause Nystagmus; the combination of Cocaine and Heroin also will not cause Nystagmus.

Ask students to suggest a specific combination of drugs that will exhibit the Null Effect on Horizontal Gaze Nystagmus.
Solicit students' questions about the Null Effect.
Redirect the students' attention to our example of pupil size: point to the matrix on the board or flip-chart.
d. Situation #2: one drug affects pupil size, but the other does not.

**XXIV-8** (Situation #2)
o one possibility: drug #1 dilates pupils, drug #2 leaves pupil size alone.
o another possibility:
<table>
<thead>
<tr>
<th><strong>XXIV-9 (Overlapping Effect)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>e.</strong> Situation #2 is called the Overlapping Effect.</td>
</tr>
<tr>
<td>o One example: PCP doesn't affect pupil size, but Cocaine dilates pupils; a subject who has taken a combination of PCP and Cocaine will usually exhibit dilated pupils.</td>
</tr>
<tr>
<td>o Another example: Valium won't affect pupil size, but heroin will constrict pupils; a subject under the combined influence of Valium and Heroin usually will have constricted pupils.</td>
</tr>
</tbody>
</table>

| **f.** Other examples of the "Overlapping Effect": |
| o Alcohol will cause HGN, but Marijuana will not cause HGN; a person under the combined influence of alcohol and Marijuana will usually have HGN. |
| o Xanax will not affect temperature, but Demerol will lower temperature; a subject impaired by a |

**Instructor Notes**

- Clarification of "overlapping Effect": action plus no action equals action.

- Ask a student to give an example of a specific combination of drugs that will produce an "Overlapping Effect" on Horizontal Gaze Nystagmus.

- Ask a student to give an example of a specific combination of drugs that will produce an "Overlapping Effect" on body temperature.
combination of Xanax and Demerol usually will have a lower temperature.

Redirect the students' attention to the example of pupil size. Point to the matrix on the dry erase board.

XXIV-10
(Situation #3)

g. Situation #3: The two drugs affect pupil size in the same way.

   o One possibility: both drugs dilate the pupils.
   Example: Both Methamphetamine and LSD will dilate the pupils. Therefore, a person under the combined influence of Methamphetamine and LSD will have dilated pupils.

   o Another possibility: both drugs constrict the pupils.
   Example: Both Morphine and Demerol are Narcotic Analgesics, so both constrict the pupils; someone under the combined influence of Morphine and Demerol will have constricted pupils.

XXIV-11
(Additive Effect)

h. Situation #3 is called the Additive Effect.

   o One example: a CNS Stimulant plus an Hallucinogen will produce an additive effect on pupil size.
   Clarification of the "Additive Effect": action plus the same action reinforces the action.

   o Example: a CNS Depressant plus PCP will cause an additive effect on HGN.
   Ask a student to give an example of a drug combination that will cause an additive effect on Nystagmus.

   o Example: a CNS Depressant plus PCP will cause an additive effect on blood pressure.
   Ask a student to give an example of a drug combination that will produce an additive effect on blood pressure.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o Example: PCP plus Cannabis will produce an additive effect on blood pressure.</td>
<td>Redirect students' attention to our example of pupil size; point to the matrix on the dry erase board.</td>
</tr>
<tr>
<td></td>
<td>i. Situation #4: The two drugs affect pupil size in exactly opposite ways.</td>
<td></td>
</tr>
<tr>
<td>XXIV-12</td>
<td>o Either drug #1 constricts the pupils while drug #2 dilates them.</td>
<td></td>
</tr>
<tr>
<td>(Situation #4)</td>
<td>o Or, drug #1 dilates the pupils while drug #2 constricts them.</td>
<td>Ask students for an example of a drug combination in which one drug dilates while the other constricts.</td>
</tr>
<tr>
<td></td>
<td>j. Situation #4 is called the Antagonistic Effect.</td>
<td>Clarification of &quot;Antagonistic Effect&quot;: action versus opposite action: can't predict the outcome.</td>
</tr>
<tr>
<td>XXIV-13</td>
<td>k. When two drugs produce an &quot;Antagonistic Effect&quot;, they tend to try to cancel each other out.</td>
<td>Example: When a suspect takes a &quot;speedball&quot; (Heroin plus Cocaine), the two drugs try to cancel out their effects on pupil size.</td>
</tr>
<tr>
<td>(Antagonistic Effect)</td>
<td>o possibility #1: the effects might actually cancel out; e.g., the speedballer's pupils might be normal of size, as the Heroin's constriction cancels out the Cocaine's dilation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o possibility #2: the Heroin might be exerting the stronger</td>
<td></td>
</tr>
</tbody>
</table>
effect at some given moment; in this case, the pupils might be constricted, but possibly not as much as they would be if the Cocaine were not present.

- possibility #3: the Cocaine might be exerting the stronger effect, and the pupils might be dilated, but maybe not as much as if the Heroin weren't present.

- With an "Antagonistic Effect", we just can't predict what we will see.

3. To summarize, when drugs from two or more drug categories are taken together, they tend to produce a combination of Null Effects, Overlapping Effects, Additive Effects and Antagonistic Effects.

4. A specific Example: Consider a person who is under the influence of a combination of Cannabis and a CNS Stimulant.

   a. Neither Cannabis nor a Stimulant causes HGN.

   - This is a case of no action plus no action

   Solicit students' questions about the Null, Overlapping, Additive and Antagonistic Effects.

Display only the title of XXIV-15 ("Cannabis and a Stimulant in Combination"); you will reveal this visual one line at a time.

Ask students: "Will you see HGN with this particular combination?"

Reveal the first line of the Visual.

Point out that the combination of Cannabis and Stimulant
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>equals no action.</td>
<td>produces a Null Effect on HGN.</td>
</tr>
<tr>
<td></td>
<td>o We will not see HGN with this combination</td>
<td>Ask students: &quot;Will we see Vertical Gaze Nystagmus?&quot;</td>
</tr>
<tr>
<td></td>
<td>b. Neither Cannabis nor a stimulant causes Vertical Gaze Nystagmus.</td>
<td>Reveal the second line of the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This is another Null Effect.</td>
<td></td>
</tr>
</tbody>
</table>
|      | o We won't see Vertical Gaze Nystagmus. | Ask students: "Will we see a Lack of Convergence?"
|      | c. Cannabis causes Lack of Convergence; a CNS Stimulant does not. | Reveal the third line of the Visual. |
|      | o This is a case of action plus no action equals action. | Point out that the combination of Cannabis and Stimulant produces an Overlapping Effect on Lack of Convergence. |
|      | o We will see Lack of Convergence with this combination. | Ask students: "What will we see when we examine pupil size?"
|      | d. CNS Stimulants dilate pupils; Cannabis either dilates pupils or leaves them alone. | Reveal the fourth line of the Visual. |

XXIV-15A

XXIV-15B

XXIV-15C
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o This may be a case of action plus no action equals action.</td>
<td>Point out that the combination of Cannabis and Stimulant produces either an Additive Effect or an Overlapping Effect on pupil size.</td>
</tr>
<tr>
<td></td>
<td>o Or it may be a case of action plus same action reinforces action.</td>
<td>Ask students: &quot;What should we see when we examine the pupils' reaction to light?&quot;</td>
</tr>
<tr>
<td></td>
<td>o In either case, we should see dilated pupils with this combination.</td>
<td>Reveal the fifth line of the Visual.</td>
</tr>
<tr>
<td></td>
<td>e. CNS Stimulants slow the pupils' reaction to light; Cannabis usually doesn't affect the pupils' reaction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Here we have another Overlapping Effect.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o We should observe a slowed reaction of the pupils.</td>
<td>Ask students: &quot;What should we see when we measure this person's pulse rate?&quot;</td>
</tr>
<tr>
<td></td>
<td>f. Both Cannabis and CNS Stimulants usually elevate pulse rate.</td>
<td>Reveal the sixth line on the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This is an Additive Effect.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o We will see a pulse rate higher than normal.</td>
<td>Ask students: &quot;What should we see when we measure this person's blood pressure?&quot;</td>
</tr>
<tr>
<td></td>
<td>g. Cannabis usually causes blood pressure to be above normal; so does a CNS Stimulant.</td>
<td>Reveal the seventh line on the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This is another Additive Effect.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>o We should see a higher than normal blood pressure.</td>
<td>Ask students: &quot;What can we expect to find when we check this person's temperature?&quot;</td>
</tr>
<tr>
<td></td>
<td>h. Cannabis usually does not affect body temperature. But CNS Stimulants usually elevate temperature.</td>
<td>Reveal the eighth line on the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This is another case of action plus no action equals action.</td>
<td>Point out that Cannabis in combination with CNS Stimulant produces an Overlapping Effect on body temperature.</td>
</tr>
<tr>
<td></td>
<td>o We can expect to see an elevated temperature with this combination.</td>
<td>Solicit students' comments and questions about the Cannabis/CNS Stimulant combination.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point out that this particular combination produces no Antagonistic Effects.</td>
</tr>
<tr>
<td>XXIV-15G</td>
<td>5. Another specific example: Consider a person under the influence of a combination of PCP and Heroin.</td>
<td>Display only the title on XXIV-16 (&quot;PCP and Heroin&quot;)</td>
</tr>
<tr>
<td></td>
<td>a. PCP causes HGN, Heroin does not.</td>
<td>Ask students: &quot;What will we see when we examine this person for HGN?&quot;</td>
</tr>
<tr>
<td></td>
<td>o This is an Overlapping Effect.</td>
<td>Reveal the first line of the Visual.</td>
</tr>
<tr>
<td>XXIV-16 (PCP &amp; Heroin)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>o We can expect to see HGN with this suspect.</td>
<td>Ask Students: Can we expect to see Vertical Gaze Nystagmus?</td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| XXIV-16B | b. PCP may cause Vertical Gaze Nystagmus, especially at high doses; Heroin will not cause Vertical Gaze Nystagmus.  
   o This is another Overlapping Effect.  
   o We may see Vertical Gaze Nystagmus in this suspect. | Reveal the second line of the Visual. |
| XXIV-16C | c. PCP causes Lack of Convergence; Heroin doesn't.  
   o Another Overlapping Effect.  
   o We can expect to see Lack of Convergence. | Reveal the third line of the Visual. |
| XXIV-16D | d. PCP doesn't affect pupil size, but Heroin constricts pupils.  
   o This is yet another Overlapping Effect.  
   o We can expect to see constricted pupils with this subject. | Reveal the fourth line of the Visual. |
<p>| XXIV-16F | | Ask students: &quot;What are we likely to observe when we check the reaction of this subject's pupils to light?&quot; |</p>
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.</td>
<td>PCP doesn't affect pupils' reaction to light; but Heroin usually produces “little to no” reaction to light.</td>
<td>Reveal the fifth line of the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This, too, is an Overlapping Effect.</td>
<td>Point out that the combination of PCP and Heroin produces Overlapping Effects on all major eye indicators of drug impairment.</td>
</tr>
<tr>
<td></td>
<td>o We can expect “little to no” reaction in this suspect's pupils.</td>
<td>Ask students: &quot;What can we expect to find when we check this subject's pulse rate?&quot;</td>
</tr>
<tr>
<td>f.</td>
<td>PCP usually causes pulse rate to be above normal; Heroin usually produces a below normal pulse rate.</td>
<td>Reveal the sixth line of the Visual.</td>
</tr>
<tr>
<td></td>
<td>o This is our first Antagonistic Effect.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o We cannot predict what this subject's pulse rate will be.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o The pulse rate could be above normal, or below normal, or within the normal range.</td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>This subject's pulse rate will depend on many factors, including:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o How much of each drug was taken.</td>
<td>Ask students: &quot;What are we likely to find when we check this subject's blood pressure?&quot;</td>
</tr>
<tr>
<td></td>
<td>o How and when each drug was taken.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o How tolerant the subject is of each drug.</td>
<td></td>
</tr>
</tbody>
</table>
### Aids

<table>
<thead>
<tr>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>h. PCP usually elevates blood pressure; Heroin usually lowers blood pressure.</td>
<td>Reveal the seventh line of the Visual.</td>
</tr>
<tr>
<td>o This is another Antagonistic Effect.</td>
<td></td>
</tr>
<tr>
<td>o We can't predict what the blood pressure will be.</td>
<td>Ask students: &quot;What are we likely to find when we check this subject's temperature?&quot;</td>
</tr>
<tr>
<td>o It could be above normal, below normal or within the normal range.</td>
<td></td>
</tr>
<tr>
<td>i. PCP usually elevates temperature; Heroin usually lowers it.</td>
<td>Reveal the eighth line of the Visual.</td>
</tr>
<tr>
<td>o This, too, is an Antagonistic Effect.</td>
<td></td>
</tr>
<tr>
<td>o The temperature could be above normal, or below normal or within the normal range.</td>
<td>Point out that the combination of PCP and Heroin produces Antagonistic Effects on all three vital signs. Solicit students' comments and questions about the combination of Heroin and PCP.</td>
</tr>
</tbody>
</table>

Show the video of subjects under the influence of specific drug combinations. Point out the Null, Overlapping, Additive and Antagonistic Effects exhibited by those suspects.
### Aids 

<table>
<thead>
<tr>
<th>Aids</th>
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<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Identifying Expected Indicators of Specific Combinations</td>
<td>Direct the students' attention to the Cumulative Drug Symptomatology Matrix, found in Section XXIV of their Student's Manual. A copy also appears at the end of these lesson plans, for your reference.</td>
<td></td>
</tr>
</tbody>
</table>

   a. The Matrix outlines the expected results of the drug recognition examination for each category.  
      Remind students that we "never say never": and we "always avoid saying always" when it comes to signs and symptoms of drugs. The Matrix summarizes what we usually see but doesn't guarantee we will always see exactly that.
   b. We will refer to the Matrix to help us interpret what we are likely to see when we examine drug combinations.

2. Worksheet Exercises  
   a. Worksheet #1: Ketamine and LSD  
      Direct the students' attention to the three worksheets in their Student's Manual.
   b. Worksheet #2: Cannabis and CNS Depressant  
      Instruct the teams that they have only 15 minutes to fill out all three worksheets (5 minutes per worksheet).
   c. Worksheet #3: CNS Depressant and CNS Stimulant  
      Solicit students' questions about this assignment.

35 Minutes
<table>
<thead>
<tr>
<th>Aids</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tell the teams to start working. Terminate their work after fifteen minutes.</td>
</tr>
<tr>
<td>3. Discussion of Worksheets</td>
<td>For each worksheet, select a team to lead the discussion. Critique and correct the students' analyses of the drug combinations, as appropriate.</td>
<td>Solicit students' comments and questions about drug combinations.</td>
</tr>
</tbody>
</table>
Session XXIV

Drug Combinations

Upon successfully completing this session the students will be able to:
- Explain the prevalence of polydrug use among drug impaired subjects and identify common combinations of drugs abused by those subjects
- Describe the possible effects that combinations of drugs can produce on the major indicators of drug impairment

Drug Combinations
(Continued)

- Define the terms "Null", "Overlapping", "Additive" and "Antagonistic" as they relate to polydrug effects
- Identify specific effects that are most likely to be observed in persons under the influence of particular drug combinations

Prevalence of Polydrug Use

Los Angeles Field Validation Study (1985):
- 72% of suspects had two or more drug categories in them (including alcohol)
- 45% had two or more drugs other than alcohol

Prevalence of Polydrug Use

P.I.R.E.* DRE database indicates that 25% of all DRE reported cases revealed two or more drug categories detected (2005)

*Pacific Institute of Research and Evaluation

Common Combinations of Drugs

- Cocaine and Cannabis
- Cocaine and Heroin
- PCP and Cannabis
- Alcohol and practically anything else

Drug Evaluation & Classification Training

Drug Evaluation & Classification Training

Drug Evaluation & Classification Training

Drug Evaluation & Classification Training

Drug Evaluation & Classification Training
Two Drugs in Combination: How Do they Affect Pupil Size?

Situation #1:
- Neither drug affects pupil size
- Example: PCP and Valium
  (Neither one affects the size of the pupils)
- The combination will also not affect pupil size

Null Effect
- No action plus no action equals no action
- If neither drug affects a particular indicator of impairment, their combination also will not affect that indicator

Two Drugs in Combination: How Do They Affect Pupil Size?

Situation #2:
- One drug affects the pupil size, but the other does not
- Example: PCP and Cocaine
  (Cocaine dilates pupils, PCP doesn't affect pupils)
- The combination will affect pupil size

Overlapping Effect
- Action plus no action equals action
- If one drug affects a particular indicator of impairment, and another drug has no effect on that indicator, the combination of those two drugs will affect the indicator, in the same way as the first drug alone

Two Drugs in Combination: How Do They Affect Pupil Size?

Situation #3:
- The two drugs affect pupil size in the same way
- Example: LSD and Cocaine
  (Cocaine dilates pupils, and so does LSD)
- The combination will affect pupil size

Additive Effect
- Action plus the same action produces reinforced action
- If two drugs independently affect some indicator in the same way, their use in combination will also affect the indicator and the effect may be reinforced
Two Drugs in Combination: How Do They Affect Pupil Size?

Situation #4:
- The two drugs affect pupil size in exactly opposite ways
- Example: Heroin and Cocaine
  (Cocaine dilates pupils, Heroin constricts pupils)
- We can’t predict how the combination will affect pupil size

Antagonistic Effect

- Action versus opposite action: can’t predict the outcome
- If two drugs affect some indicator in exactly opposite ways, their use in combination could affect that indicator in any possible way

The Effects of Drug Combinations

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

Cannabis and Stimulant in Combination

<table>
<thead>
<tr>
<th>Impairment Indicator</th>
<th>Effect Due to Cannabis</th>
<th>Effect Due to Stimulant</th>
<th>Type of Combined Effect</th>
<th>What Will We See?</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Same</td>
<td>Same</td>
<td>Null</td>
<td>None</td>
</tr>
<tr>
<td>Vig</td>
<td>Present</td>
<td>None</td>
<td>Overlapping</td>
<td>Present</td>
</tr>
<tr>
<td>Lack of Coherence</td>
<td>Present</td>
<td>None</td>
<td>Overlapping</td>
<td>Present</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Dilated (N)</td>
<td>Dilated</td>
<td>Overlapping or Addition</td>
<td>Dilated</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Normal</td>
<td>Slow</td>
<td>Overlapping</td>
<td>Slow</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
<td>Up</td>
<td>Additive</td>
<td>Up</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up</td>
<td>Up</td>
<td>Additive</td>
<td>Up</td>
</tr>
<tr>
<td>Body Temperature</td>
<td>Normal</td>
<td>Normal</td>
<td>Overlapping</td>
<td>Up</td>
</tr>
</tbody>
</table>

Phencyclidine and Heroin in Combination

<table>
<thead>
<tr>
<th>Impairment Indicator</th>
<th>Effect Due to Phencyclidine</th>
<th>Effect Due to Heroin</th>
<th>Type of Combined Effect</th>
<th>What Will We See?</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Present</td>
<td>None</td>
<td>Overlapping</td>
<td>Present</td>
</tr>
<tr>
<td>Vig</td>
<td>Present</td>
<td>None</td>
<td>Overlapping</td>
<td>Present</td>
</tr>
<tr>
<td>Lack of Coherence</td>
<td>Present</td>
<td>None</td>
<td>Overlapping</td>
<td>Present</td>
</tr>
<tr>
<td>Pupil Size</td>
<td>Normal</td>
<td>Constricted</td>
<td>Overlapping</td>
<td>Constricted</td>
</tr>
<tr>
<td>Reaction to Light</td>
<td>Normal</td>
<td>Little or None</td>
<td>Overlapping</td>
<td>Little or None</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>Up</td>
<td>Down</td>
<td>Antagonistic</td>
<td>Down</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Up</td>
<td>Down</td>
<td>Antagonistic</td>
<td>Down</td>
</tr>
<tr>
<td>Body Temperature</td>
<td>Up</td>
<td>Down</td>
<td>Antagonistic</td>
<td>Down</td>
</tr>
</tbody>
</table>

QUESTIONS?
CANNABIS AND STIMULANT IN COMBINATION

<table>
<thead>
<tr>
<th>IMPAIRMENT INDICATOR</th>
<th>EFFECT DUE TO CANNABIS</th>
<th>EFFECT DUE TO STIMULANT</th>
<th>TYPE OF COMBINED EFFECT</th>
<th>WHAT WILL WE SEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORIZONTAL GAZE NYSTAGMUS</td>
<td>NONE</td>
<td>NONE</td>
<td>NULL</td>
<td>NONE</td>
</tr>
<tr>
<td>VERTICAL GAZE NYSTAGMUS</td>
<td>NONE</td>
<td>NONE</td>
<td>NULL</td>
<td>NONE</td>
</tr>
<tr>
<td>LACK OF CONVERGENCE</td>
<td>PRESENT</td>
<td>NONE</td>
<td>OVERLAPPING</td>
<td>PRESENT</td>
</tr>
<tr>
<td>PUPIL SIZE</td>
<td>DILATED OR NORMAL</td>
<td>DILATED</td>
<td>OVERLAPPING OR ADDITIVE</td>
<td>DILATED</td>
</tr>
<tr>
<td>REACTION TO LIGHT</td>
<td>NORMAL</td>
<td>SLOW</td>
<td>OVERLAPPING</td>
<td>SLOW</td>
</tr>
<tr>
<td>PULSE RATE</td>
<td>UP</td>
<td>UP</td>
<td>ADDITIVE</td>
<td>UP</td>
</tr>
<tr>
<td>BLOOD PRESSURE</td>
<td>UP</td>
<td>UP</td>
<td>ADDITIVE</td>
<td>UP</td>
</tr>
<tr>
<td>BODY TEMPERATURE</td>
<td>NORMAL</td>
<td>UP</td>
<td>OVERLAPPING</td>
<td>UP</td>
</tr>
</tbody>
</table>
PHENCYCLIDINE AND HEROIN
IN COMBINATION

<table>
<thead>
<tr>
<th>IMPAIRMENT INDICATOR</th>
<th>EFFECT DUE TO PHENCYCLIDINE</th>
<th>EFFECT DUE TO HEROIN</th>
<th>TYPE OF COMBINED EFFECT</th>
<th>WHAT WILL WE SEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORIZONTAL GAZE NYSTAGMUS</td>
<td>PRESENT</td>
<td>NONE</td>
<td>OVERLAPPING</td>
<td>PRESENT</td>
</tr>
<tr>
<td>VERTICAL GAZE NYSTAGMUS</td>
<td>PRESENT</td>
<td>NONE</td>
<td>OVERLAPPING</td>
<td>PRESENT</td>
</tr>
<tr>
<td>LACK OF CONVERGENCE</td>
<td>PRESENT</td>
<td>NONE</td>
<td>OVERLAPPING</td>
<td>PRESENT</td>
</tr>
<tr>
<td>PUPIL SIZE</td>
<td>NORMAL</td>
<td>CONSTRICTED</td>
<td>OVERLAPPING</td>
<td>CONSTRICTED</td>
</tr>
<tr>
<td>REACTION TO LIGHT</td>
<td>NORMAL</td>
<td>LITTLE OR NONE VISIBLE</td>
<td>OVERLAPPING</td>
<td>LITTLE OR NONE VISIBLE</td>
</tr>
<tr>
<td>PULSE RATE</td>
<td>UP</td>
<td>DOWN</td>
<td>ANTAGONISTIC</td>
<td>DOWN/ NORMAL/UP</td>
</tr>
<tr>
<td>BLOOD PRESSURE</td>
<td>UP</td>
<td>DOWN</td>
<td>ANTAGONISTIC</td>
<td>DOWN/ NORMAL/UP</td>
</tr>
<tr>
<td>BODY TEMPERATURE</td>
<td>UP</td>
<td>DOWN</td>
<td>ANTAGONISTIC</td>
<td>DOWN/ NORMAL/UP</td>
</tr>
</tbody>
</table>
Forty-Five Minutes

SESSION XXV

PRACTICE: TEST INTERPRETATION
SESSION XXV   PRACTICE: TEST INTERPRETATION

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

- Analyze the results of completed drug influence evaluations and identify the category or categories of drugs affecting the individual examined.
- Describe the basis for the drug category identification.

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<th>Learning Activities</th>
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<td>o Instructor Led Demonstrations</td>
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<td>B. Interpretation Practice</td>
<td>o Small Group Practice</td>
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<td></td>
<td>o Participant Led Presentations</td>
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<td>Aids</td>
<td>Lesson Plan</td>
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<td>PRACTICE: TEST INTERPRETATION</td>
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<td></td>
<td>XXV-1 (Title)</td>
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<tr>
<td></td>
<td>XXV-2 (Objectives)</td>
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<tr>
<td></td>
<td>A. Interpretation Demonstrations</td>
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<tr>
<td></td>
<td>1. Case #1: &quot;Subject Allen&quot;</td>
</tr>
<tr>
<td></td>
<td>a. Preliminary Examination.</td>
</tr>
<tr>
<td></td>
<td>Ask students: &quot;What category or categories of drugs would produce preliminary examination results consistent with this exemplar?&quot; Probe to draw out the basis for students' responses.</td>
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<tr>
<td></td>
<td>b. Eye Examinations.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td>c.</td>
<td>Psychophysical Tests.</td>
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<td>d.</td>
<td>Vital Signs Examinations.</td>
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<td>e.</td>
<td>Dark Room Examinations.</td>
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<tr>
<td>f.</td>
<td>Other evidence.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
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</tr>
<tr>
<td>g.</td>
<td>Opinions of evaluator.</td>
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<td></td>
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<tr>
<td>2.</td>
<td>Case #2: &quot;Subject Brown&quot;.</td>
</tr>
<tr>
<td>a.</td>
<td>Preliminary Examination.</td>
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<td></td>
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<tr>
<td>b.</td>
<td>Eye Examinations.</td>
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</tr>
<tr>
<td>c.</td>
<td>Psychophysical Tests.</td>
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<tr>
<td>Aids</td>
<td>Lesson Plan</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>d. Vital Signs Examinations.</strong></td>
<td>Review the results of the Vital Signs Examinations of Subject Brown.</td>
</tr>
<tr>
<td><strong>e. Dark room examinations.</strong></td>
<td>Review the results of the Dark Room Examinations of Subject Brown.</td>
</tr>
<tr>
<td><strong>f. Other evidence.</strong></td>
<td>Review the results of the examinations for injection sites and muscle tone, and of the final interview of Subject Brown.</td>
</tr>
<tr>
<td><strong>g. Opinions of evaluator.</strong></td>
<td>Point out that the evidence indicates that Subject Brown is under the influence of a Dissociative Anesthetic and Cannabis.</td>
</tr>
</tbody>
</table>
B. Interpretation Practice

1. Team practice.

   a. Review and discussion of exemplars by teams.
   b. Feedback of results.
      o Subject Cole
      o Subject Davis
      o Subject Elliott

2. Session wrap up.

Assign students to work in teams of 3 or 4 members.

Tell teams that they are to review three exemplars (Subjects Cole, Davis, and Elliott). Team members are to discuss the evidence among themselves and reach a conclusion concerning the category or categories of drugs, if any.

Teams will present their conclusions to the entire class.

Allow teams approximately 15 minutes to review the three exemplars and reach their conclusions.

Poll the teams to determine their conclusions concerning the category or categories of drugs present in each subject.

Offer appropriate comments concerning the teams' performance.

Solicit students' comments and questions concerning this practice session.
# DRUG CATEGORIES FOR INTERPRETATION PRACTICE

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CATEGORY(IES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen</td>
<td>Cannabis</td>
</tr>
<tr>
<td>Brown</td>
<td>Dissociative Anesthetics (PCP) and Cannabis</td>
</tr>
<tr>
<td>Cole</td>
<td>Inhalants</td>
</tr>
<tr>
<td>Davis</td>
<td>Narcotic Analgesic</td>
</tr>
<tr>
<td>Elliott</td>
<td>Hallucinogen</td>
</tr>
</tbody>
</table>
Session XXV
Practice: Test Interpretation

Practice: Test Interpretation

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

- Analyze the results of completed drug influence evaluations and identify the category or categories of drugs affecting the individual examined
- Describe the basis for the drug category identification

QUESTIONS?
DRUG INFLUENCE EVALUATION

Evaluator: Dr. Chris Erickson, M.S.P.
DRE No. 85-07-9
Session XXV-1-#1

Allen, Thomas E.
DOB 9-03-78
Sex M
Race W
Accusing Officer: Tpr. Beth Stanton, M.S.P.
Date Examined/Place/Location 03/21/05, Dakota Co. Jail
Investigating Officer: Tpr. Beth Stanton, M.S.P.

Miranda Warning Given: Yes No
What have you eaten today? Coffee 2 cups

Time slept? No idea I don't remember
How long? Don't know
Are you sick or injured? No
Are you diabetic or epileptic? No

Are you taking any medication or drugs? No
Do you have any physical defects? No
Are you under the care of a doctor or dentist? No

Attitude: Cooperative
缓慢, 不感兴趣

Coordinations: Disoriented, Unsteady

Speech: Slow, Thick

Corrective lens: None

Pupil size: Equal

Vertigo Nystagmus: None

Walking test:
Cannot keep balance

Right Eye
No

Eyes:

No

Left Eye
No

Right Eye
No

Nystagmus:

None

Left Eye

Right eye

Convergence

Internal clock:

4/3

As instructed, but slow

N/A

Draw lines to spots touched:

Eyelid Tremors (Lower body tremors)

SANDALS

Type of footwear:

Clear

Natal area:

Nothing

What medication or drug have you been using? No answer

Time DRE Modified 20:20 hrs

Evaluation Start Time: 20:30 hrs

Time Completed: 21:40 hrs

Opinion of evaluator:

Rule Out

Alcohol

CNS Depressant

Hallucinogens

Cannabis

HS 172 R1/07

XXV-8
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Allen, Thomas E.

1. LOCATION: The evaluation of Thomas Allen took place in the interview room at the Dakota County Jail.

2. WITNESSES: Arresting officer, Trooper Beth Stanton of the Minnesota State Patrol witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: Trooper Stanton administered a breath test to Allen with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was on duty when contacted by Tpr. Stanton requesting a drug evaluation. Writer met Tpr. Stanton at the Dakota County Jail and she advised that she had arrested Allen for DUIL after observing his vehicle without headlights and driving 15 mph under the posted speed limit. The suspect seemed disoriented and had slow, unsteady movements. He had poor balance and coordination and was unable to perform the SFST's as directed.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at the jail. He was seemed disinterested in what was going on around him. He had poor coordination and balance. His speech was slow and thick.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect had an approximate 2" circular sway and estimated 30 seconds in 43 seconds. Walk & Turn: Suspect lost his balance during the instructions stage and raised his arms for balance. He also had lower body tremors when performing the test. One Leg Stand: Suspect swayed while balancing, used his arms for balance and put his foot down. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts and exhibited eyelid tremors.

8. CLINICAL INDICATORS: Suspect had a Lack of Convergence. His pupils were dilated in room light and direct light. His pulse and blood pressure were above the normal ranges.

9. SIGNS OF INGESTION: The suspect had a brownish-green coating on his tongue.

10. SUSPECT’S STATEMENTS: Suspect denied using drugs.

11. DRE’S OPINION: In my opinion Allen is under the influence of Cannabis and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.

13. MISCELLANEOUS: Suspect had eyelid and body tremors throughout the evaluation.
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Brown, Jerome A.

1. LOCATION: The evaluation was conducted in the interview room at Parker Center.

2. WITNESSES: Sgt. Mike Delgadillo of the LAPD DRE Unit witnessed the evaluation.

3. BREATH ALCOHOL TEST: The arresting officer, Officer Helen Pallares of the LAPD administered a breath test to Brown with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by telephone by Officer Pallares requesting a drug evaluation. Writer and Sgt. Delgadillo contacted Officer Pallares at Parker Center where it was determined that the suspect had nearly hit an officer working a sobriety checkpoint detail. The suspect was non-responsive when contacted. He had a blank stare and was sweating profusely. He performed very poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the Parker Center interview room. He was looking straight ahead with a blank stare. When asked questions he was slow to respond and at times did not respond at all. He was perspiring heavily and his speech was slow. When he stood, he would stagger and nearly fell several times.

6. MEDICAL PROBLEMS AND TREATMENT: None noted or stated.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect had an approximate 3" side to side sway and estimated 30 seconds in 55 seconds. Walk & Turn: Suspect lost his balance during the instructions, stopped once while walking, missed heel to toe on every step and used his arms for balance. One Leg Stand: On the right foot the suspect lost his balance and nearly fell and the test was stopped. He also swayed and used his arms for balance. Finger to Nose: Suspect missed the tip of his nose on each attempt and kept his finger in contact with his face on each attempt.

8. CLINICAL INDICATORS: Suspect had HGN, VGN, Lack of Convergence and Rebound Dilation. His pulse, blood pressure and temperature were above the normal ranges.

9. SIGNS OF INGESTION: Suspect had a marijuana odor on his breath and green vegetable material in his teeth.

10. SUSPECT’S STATEMENTS: Suspect denied using any medication or drugs.

11. DRE’S OPINION: In my opinion Brown is under the influence of a Dissociative Anesthetic and Cannabis and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.
DRUG INFLUENCE EVALUATION

Evaluator: Off. Jon Gonzales, Los Alamos PD

DRE No: 4/14

Rolling Log No.: 05-05-010

Session XXV - I - #3

Date & Time of Arrest: 05-07-05, 02:00 PM

Location: Albuquerque, NM

Officer: Frank

At the time of the arrest, the subject was observed to be:

- Withdrawn, Passive
- Flushed

Coordination: Poor, Stumbling

Speech: Slow, slurred, raspy

Pulse and BP:
1. 102 / 0210
2. 104 / 0277
3. 102 / 0257

Temperature:
94.2 / 98.8 F

Lack of smooth pursuit
Maximum deviation
1 / 2

Vertical Nystagmus:
- Yes
- No

One Leg Stand:
- Yes
- No

(Almost fell)

Nasal area:
- Runny nose
- Paint smears on face

Signs:
- Rectal
- Red Blood Cells
- Wet

Reaction to Light:
- Normal

Sensory:
- Median:
- Light touch
- Pain

Evaluation:
- Rule Out
- Medical
- CNS Depressant
- Habituation
- Narcotic Analgesic
- Intoxicated
- CNS Stimulant
- Diminished Anergetism

Opinion of Evaluation:
- No answer
- No answer

Date & Time of Arrest:
05-07-05, 02:00 PM

Time DRE Notified:
01:15 PM

Evaluations Start Time:
02:00 PM

Time Completed:
02:50 PM
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Cole, Ricky L.

1. **LOCATION:** The evaluation of Ricky Cole was conducted in the interview room at the Albuquerque Police Department.

2. **WITNESSES:** Lt. Murray Conrad of the Albuquerque Police Department.

3. **BREATH ALCOHOL TEST:** The arresting officer, Christine Frank of the Albuquerque Police Department administered a breath test to Cole with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer and Lt. Conrad were conducting DRE certification training at A.P.D. when contacted by Officer Frank requesting a drug evaluation. Officer Frank advised she detained the suspect after observing him fail to stop at a red traffic light at Central Ave. and University Blvd. The suspect’s speech was slow and slurred. He had gold paint on his hands and clothing. He performed poorly on the SFST’s and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at A.P.D. He appeared passive and withdrawn. He had poor balance and coordination. He swayed as he stood and stumbled several times when walking. Gold paint smears were visible on his hands, face and shirt.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect swayed approximately 2” in a circular motion and estimated 30 seconds in 90 seconds. When asked how he estimated the 30 seconds the suspect stated, “I don’t know.” Walk & Turn: The suspect lost his balance twice during the instructions, stopped walking and missed heel to toe. One Leg Stand: The suspect was unable to maintain his balance and the test was stopped for safety reasons. Finger to Nose: The suspect was unable to touch the end of his nose on any of the six attempts, repeatedly opened his eyes and swayed noticeably.

8. **CLINICAL INDICATORS:** The suspect had HGN, Vertical Gaze Nystagmus and Lack of Convergence. His pulse and blood pressure were above the normal range.

9. **SIGNS OF INGESTION:** The suspect had a chemical-like odor on his breath and paint smears on his hands and face.

10. **SUSPECT’S STATEMENTS:** Suspect denied using any medication or drugs.

11. **DRE’S OPINION:** In my opinion Cole is under the influence of an *Inhalant* and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Davis, Paul M.

1. LOCATION: The evaluation of Paul Davis took place in the interview room at the East Brunswick Police Department.

2. WITNESSES: Officer James Angermeir of the East Brunswick Police Department.

3. BREATH ALCOHOL TEST: A/O Angermeir administered a breath test to Davis with a 0.00% result.

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was contacted by radio and advised to contact Officer Angermeir for a drug evaluation. Officer Angermeir advised that he had located the suspect slumped over behind the steering wheel of his vehicle parked along the shoulder of E. Main Street. The vehicle was in drive and his foot was on the brake. The suspect’s speech was slow, low and raspy. His coordination was poor and he was very unstable on his feet. He performed poorly on the SFST’s and was arrested for DUI.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the interview room at E.B.P.D. He appeared drowsy and was having difficulty keeping his eyes open. His head was nodding forward and he had very droopy eyelids. His voice was slow, low and raspy and his pupils appeared to be constricted.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect said he felt sick.

7. PSYCHOPHYSICAL TESTS: Romberg Balance: Suspect swayed approximately 1” side to side, 2” front to back and estimated 30 seconds in 58 seconds. Walk & Turn: Suspect lost his balance during the instructions, stopped walking, missed heel to toe, stepped off the line and used his arms for balance. One Leg Stand: Suspect was unable to perform the test and it was terminated for safety. Finger to Nose: Suspect missed the tip of his nose on each attempt and his movements were slow and his head was leaning forward towards his chest.

8. CLINICAL INDICATORS: Suspect’s pupils were constricted and showed no visible reaction to light. His pulse, blood pressure and temperature were below the normal range.

9. SIGNS OF INGESTION: Subject had several old track marks on both arms and had three fresh oozing puncture wounds on the back of his left hand.

10. SUSPECT’S STATEMENTS: The suspect made several references to being “clean.”

11. DRE’S OPINION: In my opinion Davis is under the influence of a Narcotic Analgesic and unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a blood sample.
DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Elliott, John B.

1. **LOCATION:** The evaluation of John Elliott was conducted at the Adult Processing Center (APC) in Indianapolis.

2. **WITNESSES:** Deputy Chief Richie Tucker of the Winchester Police Department.

3. **BREATH ALCOHOL TEST:** Sergeant Fred Ilnicki of the Indianapolis Police Department administered a breath test to Elliott with a 0.00% result.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** The writer was on-duty and assisting with DRE field certifications at the A.P.C. when contacted by Sergeant Ilnicki requesting a drug evaluation. According to Sergeant Ilnicki, the suspect had just left a concert at the RCA Dome and was stopped for driving without headlights and for failure to yield the right of way. The suspect was acting very strange. He was highly emotional and his speech was incoherent at times. He performed poorly on the SFST's and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the interview room at A.P.C. He had very poor balance and stumbled when he walked. He appeared to be very emotional. At times he was laughing uncontrollably and then would start to cry. His speech was mumbled and mostly incoherent. His pupils appeared dilated.

6. **MEDICAL PROBLEMS AND TREATMENT:** None noted or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: Suspect was swaying approximately 2" front to back and 4" side to side until losing his balance and the test was stopped for safety reasons. Walk & Turn and One Leg Stand: Suspect was unable to perform the tests. Both were terminated for the suspect’s safety. Finger to Nose: The suspect was unable to complete this test and it was also stopped for safety reasons.

8. **CLINICAL INDICATORS:** The suspect’s pupils were dilated in all three lighting conditions. His pulse, blood pressure and temperature were above the normal ranges.

9. **SIGNS OF INGESTION:** None noted or stated.

10. **SUSPECT’S STATEMENTS:** When asked about drug use, the suspect started laughing.

11. **DRE’S OPINION:** In my opinion Elliott is under the influence of a Hallucinogen and unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a urine sample.

13. **MISCELLANEOUS:**
SESSION XXVI

PREPARING THE NARRATIVE REPORT
SESSION XXVI  PREPARING THE NARRATIVE REPORT

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

- Discuss the essential elements of the drug influence evaluation report.
- Prepare a clear and concise narrative description of the results of the drug influence evaluation.

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<td>B. Components of the Drug Evaluation</td>
<td>o  Interactive Discussion</td>
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<td>Report</td>
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<td>C. Drug Evaluation Narrative Report</td>
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<tr>
<td>Format</td>
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<td>D. Sample Report</td>
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<td>Aids</td>
<td>Lesson Plan</td>
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<tr>
<td></td>
<td>PREPARING THE NARRATIVE REPORT</td>
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<td></td>
<td>10 Minutes</td>
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<tr>
<td>XXVI-1</td>
<td>(Title)</td>
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<tr>
<td>XXVI-2</td>
<td>(Objectives)</td>
</tr>
</tbody>
</table>

### A. The Importance of Documentation

1. Successful prosecution depends on how clearly, completely and convincingly the DRE presents their observations, measurements and conclusions.

2. A well written, clear and convincing drug evaluation report increases the likelihood that the suspect will be convicted.

   a. Prosecutor is more likely to press the charge if the evidence is organized, clearly documented and compelling.

   Point out that prosecutor's decision generally is based on the offense/arrest report and, consequently, if they cannot find the information they need, they are more likely to plea bargain or dismiss the charge.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. Defense is less likely to contest the charge when the report is descriptive, detailed and complete.</td>
<td>Point out that evidence gathered during the drug evaluation is rarely challenged because it is well documented on the evaluation form, backed up by a narrative report.</td>
</tr>
<tr>
<td></td>
<td><strong>B. Components of the Drug Influence Evaluation Report</strong></td>
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</tr>
<tr>
<td></td>
<td>1. The Drug Influence Evaluation Face Sheet is part of your drug evaluation report; but it is not the entire report.</td>
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</tr>
<tr>
<td></td>
<td>a. The Face Sheet contains some very important information.</td>
<td>Point out some of the key information on the sample Face Sheet.</td>
</tr>
<tr>
<td></td>
<td>b. But the Face Sheet does not contain all of the important information that is available concerning this suspect.</td>
<td>Examples:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Suspect's pulse rate was below normal on all three measurements.</td>
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<tr>
<td></td>
<td></td>
<td>o Suspect's eyes failed to converge.</td>
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<tr>
<td></td>
<td></td>
<td>o Suspect's pupils were constricted.</td>
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<tr>
<td></td>
<td></td>
<td>Remind students that to assist with the interpretation of the information on the face sheet, boxes on the face sheet should not be left blank. It is recommended that “N/A” or “None Observed” be used.</td>
</tr>
<tr>
<td></td>
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<td>Ask students to suggest some important information that might be available that wouldn't ordinarily appear on the Face Sheet.</td>
</tr>
</tbody>
</table>
Examples:

- Information obtained during the interview of the arresting officer.
- Elaborate or lengthy statements made by the suspect.
- Paraphernalia found in suspect's possession.

4. Most importantly, the Drug Influence Evaluation Face Sheet is a Technical Document.

   a. Trained DREs know how to complete and interpret the Face Sheet.

   b. But many prosecutor, judges, and jurors won't know how to interpret it.

5. It is up to you to take all of the information you work so hard to obtain, and to put it into a clear, plain English, written report so that the prosecutor, the judge and the jury will understand what you observed and what it means.

   a. As a DRE, you have a special ability to secure powerful, scientific evidence that can make the difference between success and failure in court.

   b. It would be a shame to waste that special ability by submitting an inadequate written report.

Remind students of the K.I.S.S. principle- (Keep It Simple Stupid). While using very technical terminology is OK, the DRE must remember that it does no good to have a report that no one but them can understand.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. To ensure that the information contained on the Face Sheet is systematic and standardized the results of the tests should be recorded as follows:</td>
<td></td>
<td>Show the students an example. Remind them that in their student manuals is a complete description of the correct way to mark their evaluations.</td>
</tr>
<tr>
<td>Lack of Convergence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. A dot should be made where the pupil is and draw an arrow to indicate the movement and where the pupil stops.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Show the students an example. Remember to have them put the approximate number of inches from center the subject sways on either end of the arrows.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romberg Balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. The first figure indicates the sway from front to back and should be estimated in inches from center.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. The second figure indicates the sway from side to side and is estimated in inches from center.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Record actual elapsed time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk and Turn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. The first two categories, cannot keep balance and starts too soon, are observed during the instruction stage.</td>
<td></td>
<td>Show the students how each clue is to be documented using dry erase board or flip-charts.</td>
</tr>
<tr>
<td>o On the lines indicate the number of times each clue is observed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Indicate by a check the number of times the suspect stops, misses heel to toe, steps off line or raises arms.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------</td>
</tr>
<tr>
<td>c. Record the actual number of steps taken.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. If the suspect stops walking, indicate where with a vertical slash mark and an “S” under that mark.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. If the suspect steps off the line, indicate with half of a slash mark at an angle in the direction the step was off the line.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. If the suspect misses heel-to-toe, indicate with a vertical slash mark and an “M” under that mark.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Describe turn.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Leg Stand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Indicate above the feet the number they were counting when they put their foot down.</td>
<td></td>
<td>Demonstrate how each clue is to be documented using flip charts or dry erase board.</td>
</tr>
<tr>
<td>b. Check marks should be made to indicate the number of times the suspect swayed, used arms, hopped or put foot down.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Indicate how far the subject counted in 30 seconds in the top area of the box above the foot raised.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finger to Nose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. A line should be drawn to the appropriate triangle or circle to indicate where the suspect touched their nose.</td>
<td></td>
<td>Demonstrate how each cue is to be documented using a flip chart or dry erase board.</td>
</tr>
<tr>
<td>XXVI-4A (Components 1-4)</td>
<td>20 Minutes</td>
<td>C. Drug Evaluation Narrative Report Format</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>2. First item: the Location (i.e. where the evaluation was conducted).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. List the person who served as the evaluator and the recorder with the complete agency name spelled out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Other officers who helped to conduct the evaluation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Others who observed the evaluation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Third item: The Breath Alcohol Test.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Indicate BAC.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Who administered the breath alcohol test.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Time the test was administered.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructor's Note: Suggestion:
If the DRE draws the line from the place where the subject touches to the triangle it enables them to draw a straighter line.

Solicit students' comments and questions about the Narrative Report.

Include any instructors who witnessed the evaluation.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Fourth item: The Notification and Interview of the Arresting Officer.</td>
<td>a. When were you first notified of the request for a drug evaluation?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Summarize the information you were given at that time.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Document any information provided by the arresting officer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Summary of your interview with the arresting officer and other witnesses.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Noteworthy aspects of your initial observations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Findings of the Preliminary Examination of the Suspect.</td>
<td></td>
</tr>
<tr>
<td>7. Sixth item: Medical Problems and Treatment.</td>
<td>a. Your observations of any apparent injury or illness affecting the suspect.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Suspect's statements of injury or illness.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Summary of any medical treatment provided to the suspect.</td>
<td></td>
</tr>
<tr>
<td><strong>Aids</strong></td>
<td><strong>Lesson Plan</strong></td>
<td><strong>Instructor Notes</strong></td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td></td>
<td>8. Seventh item: Psychophysical Indicators of Impairment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Briefly summarize performance of the Romberg, Walk and Turn, One Leg Stand and Finger to Nose tests.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Include any relevant behaviors on the tests that are not included on the face sheet.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Eighth item: Clinical Indicators of Impairment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Eye signs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Briefly summarize your observations of HGN, Vertical Gaze Nystagmus, Lack of Convergence, pupil size, reaction to light and appearance of the suspect’s eyes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Document any observations of eyelid tremors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Vital signs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Briefly summarize the suspect’s pulse rate, blood pressure and temperature.</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>c. Document if body, leg or eyelid tremors were present.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Ninth item: Signs of Ingestion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Results of examinations of oral and nasal cavities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Results of examinations for injection marks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Odors detected on suspect's breath, hands, clothing, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Physical debris of drugs or drug paraphernalia found on suspect's person.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Tenth item: Suspect's Statements.</td>
<td>Remind students to contact their local prosecutor's office for information on when to give Miranda during the evaluation.</td>
<td></td>
</tr>
<tr>
<td>b. Volunteered or spontaneous statements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Statements made as a result of your interview.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Include admission or denial of drug use, time and location drugs were used, statements relating to the suspect's perception of their impairment if applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>12. Eleventh item: DRE’s Opinion.</td>
<td></td>
<td>Note: Remind the students that anytime they have a positive BAC reading, they must list alcohol (ETOH) as part of the opinion.</td>
</tr>
<tr>
<td>a. State the category or categories of drugs that you believe is/are affecting the subject.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. State your opinion concerning the subject's ability to operate a motor vehicle safely, if applicable to this case.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Twelfth item: Toxicological Sample.</td>
<td></td>
<td>Suggestion: If available, show students a copy of a toxicology request form that they will be using.</td>
</tr>
<tr>
<td>a. State the type of sample (urine, blood, etc.) obtained from the subject.</td>
<td></td>
<td>Remind the students that if they have a tracking number on the toxicology request form, that they should also include that number in the report.</td>
</tr>
<tr>
<td>b. State who drew the sample or observed the collection of the sample.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. State where the sample was taken and to whom it was given.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. If the subject refused to provide a sample, state that fact.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Thirteenth item: Miscellaneous.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Any other pertinent information such as, drugs or drug paraphernalia found in the subject’s possession</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------------</td>
</tr>
<tr>
<td>20 Minutes</td>
<td>D. <strong>Sample Report</strong></td>
<td>Direct the students' attention to the Sample Drug Evaluation Report (Richardson) in Session XXVI of their Student Manual. A copy of this report is found at the end of this lesson plan, for your reference. Briefly review all thirteen items of the report with the students. Solicit their comments and questions about the report.</td>
</tr>
</tbody>
</table>
**DRUG INFLUENCE EVALUATION**

<table>
<thead>
<tr>
<th>Evaluator:</th>
<th>Def. Jeff Riddle, Phoenix P.D.</th>
<th>DRE No:</th>
<th>Rolling Log No:</th>
<th>05-10-024</th>
<th>Session: XXVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorder/Witness:</td>
<td>Set Paul White, Maricopa Co.</td>
<td>DOB:</td>
<td>M</td>
<td>9-06-74</td>
<td>05-10-17654</td>
</tr>
<tr>
<td>Arrestor's Name (Last, First MI):</td>
<td>Richardson, John M.</td>
<td>Sex:</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arresting Officer (Name, ID No):</td>
<td>Off. Darren Nielsen, Phoenix P.D.</td>
<td>Race:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date/Time/Location:</td>
<td>10-21-05, 9:30 p.m. Maricopa Co. Jail</td>
<td>Breath Analysis:</td>
<td>0.00%</td>
<td>74501</td>
<td>5:00 p.m. Nothing N/A N/A</td>
</tr>
<tr>
<td>Miranda Warning Given:</td>
<td>Yes No</td>
<td>What have you eaten today?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What have you been drinking?</td>
<td></td>
<td>How much?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time of Last Drink:</td>
<td></td>
<td></td>
<td>5:00 p.m. Nothing N/A N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you take insulin?</td>
<td>Yes No</td>
<td>Do you have any physical defects?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are you taking any medication or drugs?</td>
<td>Yes No</td>
<td>Are you under the care of a doctor or dentist?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long pause before answering</td>
<td></td>
<td>Corresponds less:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech:</td>
<td>Low, Slow, Raspy</td>
<td>Corneal reflex:</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Eye:</td>
<td>Red blood vessels</td>
<td>Pupil size:</td>
<td>□ Normal □ Unequal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to follow stimulus:</td>
<td>Yes No</td>
<td>Eyelids:</td>
<td>□ Normal □ Droopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulse and time:</td>
<td>HGN</td>
<td>Vertical Nystagmus:</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>58 / 9:42 p.m.</td>
<td>Right Eye:</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>56 / 9:58 p.m.</td>
<td>Left Eye:</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>58 / 10:07 p.m.</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romberg Balance:</td>
<td>Head, dropped forward</td>
<td>Cannot keep balance:</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk and Turn test:</td>
<td>Raised arms almost continuously</td>
<td>Starts soon:</td>
<td>1' Nine 2' Nine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Clock:</td>
<td>52</td>
<td>Stops walking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollen:</td>
<td>30 seconds</td>
<td>Metre measured to toe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe Turn:</td>
<td>Pivoted - Nearly fell</td>
<td>Cannot do test (explain):</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure:</td>
<td>71 / 68</td>
<td>Pupil size:</td>
<td>Room Light</td>
<td>Darkness</td>
<td>Direct</td>
</tr>
<tr>
<td>1</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle tone:</td>
<td>Near normal</td>
<td>Rebound dilation:</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance:</td>
<td>Rigid</td>
<td>Reaction to Light:</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSF:</td>
<td>3 Fresh puncture wounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Fresh puncture wounds</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3 Fresh puncture wounds</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Opinion of evaluator:**

- Rule Out
- Alcohol
- CNS Stimulant
- CNS Depressant
- Hallucinogen
- Narcotic Analgesic
- Cannabinoid

**Signatures:**

- Off. Darren Nielsen
- Off. Jeff Riddle

**Time of arrest:**

- 9:05 pm
- DRE Notified: 9:20 pm
- Evaluation Start Time: 9:30 pm
- Time Completed: 10:20 pm
DRUG INFLUENCE EVALUATION NARRATIVE

1. LOCATION: The evaluation was conducted in the DRE room at the Maricopa County Jail, Phoenix, Arizona.

2. WITNESSES: The entire evaluation was witnessed and recorded by Sergeant Paul White of the Maricopa County Sheriff’s Office.

3. BREATH ALCOHOL TEST: The arresting officer, Officer Darren Nielsen of the Phoenix Police Department obtained an 0.00 BrAC reading from the suspect at 9:20 p.m., using the Intoxilyzer 5000, Serial #474501.

4. THE NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: At approximately 9:20 p.m., the writer was contacted by dispatch and requested to conduct a DRE evaluation for Officer Nielsen. Writer contacted Officer Nielsen at the Maricopa County Jail where it was determined that Richardson (DOB 09/06/74) had been observed driving slowly and failed to stop at a red light. Officer Nielsen stated Richardson appeared sleepy and was “on the nod.” Officer Nielsen also stated the suspect’s voice was low in volume, raspy in tone and slow in tempo. His balance and coordination was poor and he was arrested for DUI after performing poorly on the SFST’s.

5. INITIAL OBSERVATION OF SUSPECT: Writer first observed the suspect in the M.C.S.O. DRE room. He moved very slowly, was unstable on his feet and when he walked across the room he stumbled and nearly fell. His head nodded forward repeatedly and he appeared to be “on the nod.” When he answered questions from Officer Nielsen, his words were slow and slurred. His eyelids were droopy and his pupils appeared to be constricted. His first pulse was checked at 58 BPM.

6. MEDICAL PROBLEMS AND TREATMENT: The suspect claimed no illness or injury. No evidence of injury or illness was observed during the evaluation.

7. PSYCHOPHYSICAL: The suspect exhibited impairment throughout all portions of the psychophysical tests. Romberg Balance: The suspect exhibited a 2” front to back sway and a 3” side to side sway. The suspect had a slow internal clock estimating 30 seconds in 52 seconds and his head repeatedly dropped forward towards his chest during the test. Walk and Turn: The suspect lost his balance during the instruction stage, missed heel to toe three times during the first nine steps and three times on the second nine steps. He turned incorrectly with a pivot and nearly fell. He also raised his arms almost continuously throughout the test. One Leg Stand: The suspect counted very slowly throughout the test making it to 1012 in 30 seconds while standing on his left foot and 1015 in 30 seconds while standing on his right foot. He also put is foot down three times while standing on his left foot and twice while standing on his right foot. Additionally, he swayed while trying to balance and
used his arms for balance throughout both tests. Finger to Nose: The suspect responded to commands very slowly and used the wrong hands on attempts #5 and #6. He did not touch the tip of his nose on any of the six attempts.

8. CLINICAL INDICATORS: EYES: No clues of HGN or VGN were observed. Lack of Convergence was observed. The suspect’s pupils were constricted in all three lighting conditions, there was no visible reaction to light and his eyelids were droopy. VITAL SIGNS: The suspect’s pulse rates were below the normal range (58, 56, 58 BPM). His blood pressure was also below the normal range at 114/68.

9. SIGNS OF INGESTION: Three fresh puncture wounds were located on the suspect’s left forearm. Numerous scar lines (“track marks”) were observed on his left inside forearm. (Photographs attached) Muscle tone was flaccid and the suspect’s arms felt cool to the touch.

10. SUSPECT’S STATEMENTS: The suspect repeatedly denied using drugs stating, “I told you, I don’t do drugs.” He stated he was right-handed and the puncture wounds on his left forearm were thorn scratches from gardening.

11. DRE’S OPINION: In my opinion, Richardson is under the influence of a Narcotic Analgesic and is unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: A urine sample was obtained from the suspect at 10:35 p.m., witnessed by the writer and Sgt. White. The sample was delivered to the Evidence Property Room pending analysis by the Forensic Laboratory.

13. MISCELLANEOUS: Three syringes with needles were located by Officer Nielsen in Richardson’s vehicle.
Session XXVI
Preparing the Narrative Report

Preparing the Narrative Report

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

- Discuss the essential elements of the drug influence evaluation report
- Prepare a clear and concise narrative description of the results of the drug influence evaluation

Sample Drug Influence Evaluation
Face Sheet

Components on the
Drug Evaluation Narrative Report

1. Location
2. Witnesses
3. Breath Alcohol Test
4. Notification and Interview of Arresting Officer

Components on the
Drug Evaluation Narrative Report

5. Initial observations of the suspect
6. Medical problems and treatment
7. Psychophysical indicators of impairment
8. Clinical indicators of impairment
9. Signs of ingestion

Components on the
Drug Evaluation Narrative Report

10. Suspect’s statements
11. DRE officer’s opinion
12. Toxicological sample
13. Miscellaneous
QUESTIONS?
One Hour and Thirty Minutes

SESSION XXVII

PRACTICE: TEST ADMINISTRATION
SESSION XXVII  PRACTICE: TEST ADMINISTRATION

Upon successfully completing this session the participants will be able to:

- Administer selected portions of the battery of examinations that constitute the drug influence evaluation.
- Describe the examination procedures.
- Document the results of the evaluations.

Content Segments

<table>
<thead>
<tr>
<th>Content Segments</th>
<th>Learning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Procedures for This Session</td>
<td>o Participants' Hands On Practice</td>
</tr>
<tr>
<td>B. Hands On Practice</td>
<td>o Instructor Led Coaching</td>
</tr>
<tr>
<td>C. Session Wrap Up</td>
<td>o Participant Led Coaching</td>
</tr>
</tbody>
</table>
### Aids

**Lesson Plan**

<table>
<thead>
<tr>
<th></th>
<th>PRACTICE: TEST ADMINISTRATION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Minutes</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>XXVII-1 (Title)</th>
<th></th>
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<table>
<thead>
<tr>
<th></th>
<th>XXVII-2 (Objectives)</th>
<th></th>
</tr>
</thead>
</table>

### Instructor Notes

Total Lesson Time: Approximately 90 Minutes

Display Session Title

Point out "Practice Session" wall chart.

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

---

**A. Procedures for this Session**

1. Students will work in two or three member teams.

   **NOTE:** Three member teams are preferable. However, no four member teams should be constructed. Thus, for example, if the class has 25 students, assign 7 three member teams and 2 two member teams.

   Make team assignments.

   **Emphasize** that students can help each other learn by pointing out errors of omission or commission.

   a. At any given time, one member of the team will be engaged in conducting and recording examinations of another member.

   b. The third member of the team will help coach and critique the student who is conducting the examinations.
### Aids Lesson Plan

<p>| | |</p>
<table>
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</table>
| a. | Begin with the Preliminary Examination.  
| o | Ask all of the prescribed questions.  
| o | Conduct the initial check of the eyes.  
| o | Check the pulse for the first time.  
| b. | Conduct the tests of Horizontal Gaze Nystagmus, Vertical Gaze Nystagmus and Lack of Convergence.  
| c. | Administer the four divided attention psychophysical tests.  
| o | Romberg Balance test  
| o | Walk and Turn test  
| o | One Leg Stand test  
| o | Finger to Nose test  
| 2. | For this practice session, each student will conduct a complete drug influence evaluation.  
| c. | Students will take turns serving as test administrator, test subject and coach.  
| Instructor Notes | Instruct students to review the standardized drug influence evaluation form in their manual.  
|  | For practical purposes, not all 12 steps will be completed in this Session. Instructors should provide information to students regarding steps one and two.  
|  | Point out that the student who is "coaching" should simultaneously take the subject's pulse along with the test administrator.  
|  | Point out that, when conducting the HGN test, the "coach" should check the student administrator's ability to estimate angles of 30, 40 and 45 degrees. A template should be used for this check.  
|  | Point out that it will not be necessary for the student (subject) actually to perform these tests (except for Finger to Nose). It will suffice for the student (administrator) simply to give the test instructions accurately and completely.  

---

**Aids**

**Lesson Plan**

**Instructor Notes**
<table>
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</table>
| d. Check the vital signs. | o Blood Pressure  
o Temperature  
o Check the pulse for the second time. | Point out that, for this practice session, these examinations will not actually be given in the dark. |
| e. Conduct the dark room examinations. |  |  |
| f. Check for muscle rigidity. |  |  |
| g. Examine the student (subject's) neck, arms and ankles for signs of injection. | o Check the pulse for the third time. | Solicit students' questions concerning procedures for this practice session. |

**B. Hands On Practice**

60 Minutes

- Instruct students to begin their practice.
- Monitor the teams, and offer encouragement and constructive criticism, as appropriate.
- Make sure each student serves as the test administrator for at least one complete drug influence evaluation.
- Offer appropriate comments and observations about the students' performance.
- Solicit students' comments concerning this practice session.

**C. Session Wrap Up**

15 Minutes

-  |
Session XXVII

Practice: Test Administration

Practice: Test Administration

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

- Administer selected portions of the battery of examinations that constitute the drug influence evaluation
- Describe the examination procedures
- Document the results of the examinations

QUESTIONS?
SESSION XXVIII

CASE PREPARATION AND TESTIMONY
SESSION XXVIII    CASE PREPARATION AND TESTIMONY

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

- Conduct a thorough pre-trial review of all evidence and prepare for testimony.
- Provide clear, accurate and descriptive direct testimony concerning drug influence evaluations.
- Respond effectively and appropriately to cross examination in Drug Evaluation and Classification cases.

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<td>A. Guidelines for Case Preparation</td>
<td>o Instructor Led Presentations</td>
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<tr>
<td>B. Guidelines for Direct Testimony</td>
<td>o Instructor Led Demonstrations</td>
</tr>
<tr>
<td>C. Typical Defense Tactics</td>
<td>o Reading Assignments</td>
</tr>
</tbody>
</table>
**Aids** | **Lesson Plan** | **Instructor Notes**
--- | --- | ---
CASE PREPARATION AND TESTIMONY | Total Session Time: Approximately 90 Minutes

10 Minutes

XXVIII-1 (Title)

XXVIII-2 (Objectives)

A. **Guidelines for Case Preparation**

1. Preparation

   a. Preparation to present your case in court begins during your initial investigation.

   o The quality of your investigation and documentation will ultimately determine your ability to accurately present information during trial.

   b. When you receive the trial notice you should:

      o Review all records and reports associated with the case.

      o Review all evidence and your conclusion.

   **Point out** That it is especially important to take complete and accurate notes of your investigation and observations. Complete documentation of this information is essential.

   Schedule a pre-trial conference with the prosecutor.
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<th><strong>Lesson Plan</strong></th>
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<tbody>
<tr>
<td>o Review notes with arresting officer.</td>
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<tr>
<td>o Review any weak areas.</td>
</tr>
<tr>
<td>o Clarify or resolve any discrepancies.</td>
</tr>
<tr>
<td>o Review questions the prosecutors will be asking.</td>
</tr>
<tr>
<td>o Review tactics the prosecutors expects the defense to use.</td>
</tr>
<tr>
<td>o Review your resume and credentials.</td>
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</tbody>
</table>

2. If a pre trial conference is not possible, identify the main points of the case and discuss them with the prosecutor during the few minutes before the trial.

   Note: It is very important to meet with prosecutors that have never been exposed to the DEC Program before trial to explain that it can not be treated like a typical DUI trial. You must explain that there are different protocols for DUI versus DRE cases. Excellent resources for prosecutors can be obtained through the National Traffic Law Center.

3. Contact the DEC Program Agency Coordinator to discuss any new findings regarding drug categories.
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<td>XXVIII-4</td>
<td><strong>B. Guidelines for Direct Testimony</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Direct testimony</td>
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</tr>
<tr>
<td></td>
<td>a. Although knowledge only greater than what the public has is required to qualify as an &quot;expert&quot;, your testimony will carry much more weight if you have good credentials.</td>
<td><strong>Point out</strong> that officer's resume is invaluable in establishing credibility.</td>
</tr>
<tr>
<td></td>
<td>b. Qualifications will be established during Voir Dire:</td>
<td><strong>Voir Dire</strong> is a French expression literally meaning &quot;to see, to say&quot;. Loosely, this would be rendered in English as &quot;To seek the truth&quot;, or &quot;to call it as you see it&quot;. In a law or court context, one application of voir dire is to question a witness to assess his or her qualifications to be considered an expert in some matter pending before the court.</td>
</tr>
<tr>
<td></td>
<td>o When testifying, relate training and experience to the type of arrest being tried (e.g. DWI, Methamphetamine, Cocaine, etc.)</td>
<td><strong>Highlight fact</strong> that you were selected to attend specialized DRE training, not just assigned randomly.</td>
</tr>
<tr>
<td></td>
<td>o Being qualified as an expert in the past does not automatically qualify you as an expert in a particular court or case.</td>
<td><strong>Point out</strong> that officers should document all previous cases where they were qualified as an expert.</td>
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<td>Aids</td>
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<tr>
<td>o If possible, do not allow the defense to stipulate that you are an expert.</td>
<td>Point out that if your credentials are good you should always try to get your specific qualifications in front of the jury.</td>
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<tr>
<td>o Document and record all evaluations conducted. Establish ratio of evaluations that resulted in a finding that the subject was not under the influence.</td>
<td>Point out that if evaluation is properly conducted officers will be able to determine source of impairment accurately.</td>
<td>It is essential to demonstrate to the jury that you are fair and impartial, and that you look at each case individually.</td>
</tr>
<tr>
<td>o Highlight the number of times you have seen a person under the influence of the drug(s) in question and have observed the symptomatology, etc.</td>
<td>Point out that this is critical in establishing credibility.</td>
<td></td>
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<td>o Ability to answer specific questions with confidence, skill and exactness will bolster a professional image in the eyes of the judge and/or jury.</td>
<td>Point out that minor details are important.</td>
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</table>

XXVIII-5
(New Scientific Principle)

2. New Scientific Principle

<p>| o The scientific principles are unfamiliar to the jury or judge. | Point out that they aren't really new just not within the common realm of knowledge of the average person. | |
| o Your task is to establish that your hard work through training will be acceptable in the court. | | |
| o American courts employ either the Frye or the Daubert standards for evidence for your jurisdiction. | | |</p>
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<td>determining the admissibility of scientific evidence.</td>
<td>&quot;Frye vs. U.S.&quot; 293F 1013 (D.C. Cir. 1923).</td>
</tr>
<tr>
<td></td>
<td>o The landmark case &quot;Frye vs. U.S.&quot;</td>
<td>Point out it is not enough that qualified experts testify that a particular scientific technique is valid. The technique must be generally accepted by the relevant scientific community.</td>
</tr>
<tr>
<td></td>
<td>o Frye requires that the scientific principle or theory used to support &quot;evidence&quot; be in conformity with a generally accepted explanatory theory, if the &quot;evidence&quot; is to be admissible.</td>
<td>Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)</td>
</tr>
<tr>
<td></td>
<td>o In Daubert, courts serve as a gatekeeper for all scientific evidence.</td>
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<td></td>
<td>o Courts assess evidence by considering four factors:</td>
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<td></td>
<td>1. Opinions are testable</td>
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<tr>
<td></td>
<td>2. Methods/principles have been subject to peer review</td>
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<td>3. Known error rate can be identified</td>
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<tr>
<td></td>
<td>4. Opinions rest on methodology that is generally accepted within the relevant scientific/technical community</td>
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</table>
2. General guidelines.

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<tr>
<td>XXVIII-6</td>
<td>(General Guidelines)</td>
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<tr>
<td>a. Basic job is to prove that the subject was under the influence of a drug or some combination of drugs.</td>
<td>Keep this in mind at all times.</td>
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<tr>
<td>b. Don't be afraid to say &quot;I don't know&quot;.</td>
<td>Point out that the officer is not expected to be an expert on all aspects of all drugs. Testify to only what you know. Remember, an expert witness can rely on hearsay to develop his or her expertise.</td>
<td></td>
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<tr>
<td>c. Avoid contact with the defense attorney if possible.</td>
<td>Remind students that both sides have a specific role to play in the case at hand, but that does not preclude a personal or professional relationship.</td>
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<tr>
<td>d. Don't be upset if prosecutor and defense attorney appear friendly to each other.</td>
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<tr>
<td>e. Jury focuses on an officer's demeanor more than content of testimony.</td>
<td>Point out that an 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.</td>
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<tr>
<td>f. Do not bring manuals or articles into court for reference.</td>
<td>Review materials before court to become familiar with contents.</td>
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<tr>
<td>g. Explain technical terms in layman's language.</td>
<td>For example, HGN means an involuntary jerking of the eyes occurring as the eyes gaze to</td>
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<td>Aids</td>
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<td>h. Pay attention to what evidence or testimony can be and is excluded.</td>
<td>Point out that if the officer testifies on subject matter that was excluded, it could result in a mistrial.</td>
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<td></td>
<td>i. When describing subject's performance on SFST's, explicitly describe exactly what the subject did or neglected to do: don't use the terms &quot;pass&quot; or &quot;fail.&quot;</td>
<td>Point out that the terms &quot;pass&quot; or &quot;fail&quot; should not be used. Describe actual performance. The defense will try to trip you up on this point...there are no passing or failing marks.</td>
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<td></td>
<td>j. If defense attorney asks a &quot;why&quot; question, take the opportunity to explain in great detail if appropriate.</td>
<td>Results of subject's performance are describable evidence. Be sure to emphasize that all evidence is taken into account before forming an opinion.</td>
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<td>C. Typical Defense Tactics</td>
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<tr>
<td></td>
<td>1. The defense relies on several factors to &quot;impeach&quot; or discredit your testimony.</td>
<td>Point out that this suggestion does not mean that the officer should embellish his or her testimony...be careful not to open any doors for the defense.</td>
</tr>
<tr>
<td></td>
<td>a. The defense will challenge your observations and interpretations. They will attempt to show that the</td>
<td>Note: See attachment for typical defense questions.</td>
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XXVIII-7 (Defense Tactics)

45 Minutes
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<th>Aids</th>
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<th>Instructor Notes</th>
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<td>signs, symptoms and behaviors observed have other explanations.</td>
<td>Point out that if the defense can discredit your training and/or experience your testimony will have little &quot;weight&quot; with the jury.</td>
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<tr>
<td></td>
<td>b. 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, resulting in a skill.</td>
<td>The trial tactic is to show that the officer does not have the expertise to accurately diagnose the cause of intoxication/impairment because of inadequate formal training which lessens the value of his/her field experience and increases likelihood that he/she is mistaken in his/her conclusion.</td>
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<td>o By demonstrating the officer lacks depth of knowledge in the drug field by contrasting his or her knowledge with the defense expert's knowledge.</td>
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<td></td>
<td>c. By challenging your credibility:</td>
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<td></td>
<td>o inconsistencies</td>
<td>Arresting officer's and examining officer's testimony must be complimentary. Any differences must be explained.</td>
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<td>o comparison with past testimony</td>
<td>Get your facts straight and stick to them.</td>
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<td></td>
<td>Try to get copies of transcripts of previous trials to review your strong/weak points. If possible, review your testimony with the prosecutor.</td>
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<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
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<tr>
<td>o testimony that is at odds with other established experts</td>
<td>Do your homework...review the literature. Explain any differences if possible.</td>
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<tr>
<td>o lack of recall</td>
<td>Try to be prepared, but don’t be afraid to say &quot;I don’t know&quot;. Be honest.</td>
<td></td>
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<tr>
<td>o by demonstrating that the officer incorrectly performed part of the evaluation, resulting in an erroneous conclusion.</td>
<td>Point out that the evaluation should be performed &quot;by the book&quot; each and every time it is conducted.</td>
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</table>

4. Role of defense expert.
   a. To impeach credibility of the arresting officer and/or the prosecution expert.
   b. To present alternative conditions and states that could have produced the same or similar symptoms.

5. Typical defense questions.
   a. Pupillary examination in a drug case:
      o Where the examination took place.
      o How dark was the examining room.
      o The size or power of the flashlight.
      o Where the defendant was placed in relationship to the examiner.

   My expert v. your expert. Usually they are 180 degrees apart in their opinions.

   The instructor should develop this section based on his or her personal experiences. The sample questions concerning a heroin case are based on "How To Use The Expert Witness In A Narcotic Case" by Donald M. Trookman, MD. It may be beneficial to conduct a role play cross examination to demonstrate typical questions.
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<td>o Where the flashlight was directed during the examination.</td>
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<td></td>
<td>o Where the defendant was looking during the examination.</td>
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<td>o How many times each pupil was checked.</td>
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<td></td>
<td>b. Describe the difference between a fresh puncture wound and an old puncture wound.</td>
<td><strong>Point out</strong> that a fresh puncture wound is defined as under 12 hours after injection.</td>
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<tr>
<td></td>
<td>c. Are there any physical illnesses or conditions that manifest the same signs as heroin intoxication, and describe a few.</td>
<td><strong>Solicit students' comments and questions concerning case preparation and testimony.</strong></td>
</tr>
<tr>
<td></td>
<td>d. How long does an occasional heroin user remain under the influence of the drug after injection?</td>
<td><strong>Point out</strong> that the list of possible answers is almost interminable.</td>
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<td><strong>SUGGESTED ROLE PLAY TO DISCUSS THE FOLLOWING QUESTIONS.</strong></td>
</tr>
<tr>
<td></td>
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<td>What is a DRE?</td>
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<td>What is involved in the DEC training program?</td>
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<td>How do you properly identify the categories or category?</td>
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<td>How do you explain the opinion?</td>
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<td>What are the components of a drug influence evaluation?</td>
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ATTACHMENT A

DRE DEFENSE CROSS EXAMINATION QUESTIONS

The following are representative of questions the defense may use to challenge the DRE’s in court. (The defendant is identified as Miss Alicia Ann Ace.)

Missing Symptoms/Normals

This line of questions attempts to elicit the fact that the defendant did not have all of the expected signs or symptoms of the drug (s) in question.

Officer, you were taught that bruxism or grinding of the teeth is a sign of CNS Stimulant influence, isn’t it? Miss Ace didn’t have that sign, did she?

The defense may also focus on those signs or symptoms that were normal, and were therefore, not consistent with the drug in question.

Officer, you learned the normal range of temperature in DRE training, didn’t you? And that range is 98.6 plus or minus one degree, isn’t it? What was Miss Ace’s temperature? (98) 98 is within normal ranges, isn’t it? Miss Ace’s temperature was normal, wasn’t it? CNS Stimulants cause elevated temperature, don’t they? Miss Ace’s was not elevated, was it?

Alternative Explanations

The defense elicits alternative explanations for the signs and symptoms of the drug (s) in question. These alternative explanations usually deal with medical conditions, stress, a traffic crash, etc.

Officer, an elevated pulse rate can be caused by things other than drugs, can’t it? Excitement may cause it? Stress may cause it? Being involved in a traffic crash is stressful, isn’t it? And being involved in a traffic crash may cause elevated pulse, right? Being interviewed in the early morning by three police officers is stressful? And that may also cause the pulse to be elevated, can’t it?

Defendant’s Normals

The defense attempts to emphasize the fact that not everyone is so-called normal, that normal is subjective.

Officer, you were taught the normal range for pulse in DRE training, weren’t you? And you agree that not all people fall in that normal range, don’t you? That there are people with pulse rates above normal that aren’t on drugs, right? A person’s pulse changes over time, doesn’t it? You don’t know what Miss Ace’s normal pulse is, do you? It could be in the normal range, right? But it could be above or below the normal range - normally for her, isn’t that so?
**Doctor Cop**

The line of questioning challenges the credibility of the officer’s teachers - that they are police officers, rather than medical professionals.

Officer, the teachers in this DRE school weren’t doctors, were they? They weren’t nurses either? Toxicologists? Pharmacologists? Paramedics? They were police officer, right?

**Just a Cop**

This line of questioning challenges the DRE’s credentials - that they are “just a cop.” This infers that the DRE evaluation is actually a medical evaluation that should be undertaken only by a medical professional.

Officer, you’re not a doctor, are you? A toxicologist? A pharmacologist? A nurse? A physiologist? You don’t have a degree in chemistry, do you? You’re a police officer, right?

**The Unknown**

By causing the officer to state that they don’t know how a sign or symptom is caused, the defense attacks the officer’s credibility. This line of questioning challenges the officer’s expertise, by implying that a real expert would know these things.

Officer, you don’t know how CNS Stimulants dilate the pupil, do you? You don’t know how alcohol supposedly causes Nystagmus, do you? You don’t know how CNS Stimulants supposedly elevate the heart rate, do you?

**Guessing Game**

This tactic attacks the DRE’s opinion as a subjective guess, a belief, rather than objective. Guesses can be wrong.

Officer, your opinion in a DRE case is subjective, isn’t it? It’s a belief on your part? You’ve made these beliefs in DRE cases in the past, haven’t you? A sometimes toxicology didn’t find the drug you predicted, isn’t that so? And, in fact, sometimes, toxicology didn’t find any drug, isn’t that so? And so, sometimes your opinion is not correct, right? Sometimes, you guess wrong?
SESSION XXIX

CLASSIFYING A SUSPECT (ROLE PLAY)
SESSION XXIX  CLASSIFYING A SUSPECT (ROLE PLAY)

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

- Conduct a complete drug influence evaluation using the systematic and standardized 12 step process.
- Compile a complete, clear and accurate report documenting the results of a drug influence evaluation using the 13 component narrative report format.

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<td>B. Report Preparation Practice</td>
<td>o Note taking Practice</td>
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<td>C. Report Review and Critique</td>
<td>o Small Group Work session</td>
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<td>o Instructor led Presentations</td>
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<td></td>
<td>o Participant led Presentations</td>
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<td></td>
<td>o Participant led Critiques</td>
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<td><strong>CLASSIFYING A SUSPECT (ROLE PLAY)</strong></td>
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<td><strong>XXIX-1</strong>&lt;br&gt;(Title)</td>
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<td></td>
<td><strong>XXIX-2</strong>&lt;br&gt;(Objectives)</td>
</tr>
<tr>
<td></td>
<td><strong>A. Scenarios: Simulated Examinations</strong></td>
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<td>1. Team assignments</td>
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<td>2. Procedures</td>
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</tbody>
</table>
Aids Lesson Plan Instructor Notes

a. Each team will examine as many as possible of the "role players", until the time scheduled for this segment elapses.

Solicit students' questions concerning the procedures.

b. Each examination will be carried out fully: nothing will be omitted except for the breath alcohol test.

c. At certain points in the examination, the "role player" will inform the team what to record.

Example: The "role players" will instruct the teams concerning the evidence to be recorded from the Horizontal Gaze Nystagmus test.

d. All data will be recorded on the standard Drug Influence Evaluation Form.

Clarification: "Role player Alpha" might be simulating a person who is under the influence of a CNS Stimulant only. "Role Player Delta" might be simulating a person under the influence of an Inhalant only.

e. Some "role players" will be simulating the signs and symptoms of exactly one category of drugs.

"Role Player Bravo" might be simulating someone who is under the influence of both PCP and Marijuana.

f. Some "role players" may be simulating the signs and symptoms of two or more categories in combination.

g. It is possible that one or more "role players" may be simulating persons who are not under the influence of any drugs.

h. At the completion of each examination, the team will discuss the evidence obtained and reach a consensus concerning the
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>category or categories of drugs present.</td>
<td>Verify that all teams understand the procedures.</td>
</tr>
<tr>
<td>i.</td>
<td>Subsequently, each team will be assigned the responsibility of preparing and presenting a complete narrative report on one &quot;role player&quot;.</td>
<td>Make sure that teams have sufficient copies of the Drug Evaluation Form.</td>
</tr>
<tr>
<td>j.</td>
<td>All students will participate in critiquing the reports.</td>
<td>Assign a &quot;role player&quot; to each team.</td>
</tr>
<tr>
<td></td>
<td>3. Drug Evaluation and Classification practice.</td>
<td>Example: &quot;Alpha&quot; to team #1 &quot;Bravo&quot; to team #2 &quot;Charlie&quot; to team #3, etc.</td>
</tr>
<tr>
<td></td>
<td>As each team completes the entire evaluation, the team will hand over its &quot;role player&quot; to the next team. That is, team #1 hand off to team #2, team #2 to team #3, etc.</td>
<td>Make sure that each team member fully participates, and conducts some portion of the evaluation of each &quot;role player&quot;.</td>
</tr>
<tr>
<td></td>
<td>Allow the practice to continue for approximately 2 hours, or until each team has completed the evaluation of at least three &quot;role players&quot; (whichever occurs later).</td>
<td></td>
</tr>
<tr>
<td>Aids</td>
<td>Lesson Plan</td>
<td>Instructor Notes</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td></td>
<td>B. Report Preparation Practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 Minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Team assignments</td>
<td>Instruct each team to prepare a report based on the third &quot;role player&quot; evaluated by the team. Verify that each team understands who is to be the subject of the report.</td>
</tr>
<tr>
<td></td>
<td>2. Group writing exercise</td>
<td>Note: team members may divide the report writing work among themselves in any way they see fit.</td>
</tr>
<tr>
<td></td>
<td>C. Report Review and Critique</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 Minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Report presentation</td>
<td>Each team should appoint a speaker to read its report. The speaker should explain exactly what led the team to its conclusion concerning the category or categories of drugs.</td>
</tr>
<tr>
<td></td>
<td>2. Report critique</td>
<td>Solicit questions and comments from students concerning the report they have heard. Inquire whether other teams that evaluated this same &quot;role player&quot; reached a different conclusion about the drug category or categories. In turn, present and critique the other teams' reports.</td>
</tr>
</tbody>
</table>
Note: If necessary, this segment can be conducted simultaneously in two separate classrooms, with half of the teams present in each classroom, to allow all reports to be presented and critiqued within the allotted time.
# ROLE PLAY SCENARIOS

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>DRUG CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>Drug-free</td>
</tr>
<tr>
<td>Bravo</td>
<td>Cannabis</td>
</tr>
<tr>
<td>Charlie</td>
<td>Dissociative Anesthetic (PCP)</td>
</tr>
<tr>
<td>Delta</td>
<td>Narcotic Analgesic</td>
</tr>
<tr>
<td>Echo</td>
<td>Narcotic Analgesic and CNS Depressant</td>
</tr>
<tr>
<td>Foxtrot</td>
<td>Cannabis</td>
</tr>
<tr>
<td>Golf</td>
<td>CNS Stimulant</td>
</tr>
<tr>
<td>Hotel</td>
<td>Dissociative Anesthetic and Cannabis</td>
</tr>
<tr>
<td>India</td>
<td>Inhalant</td>
</tr>
<tr>
<td>Juliet</td>
<td>Alcohol (ETOH) only (BAC = 0.06)</td>
</tr>
<tr>
<td>Kilo</td>
<td>Narcotic Analgesic and ETOH (BAC = 0.05)</td>
</tr>
<tr>
<td>Lima</td>
<td>CNS Stimulant and ETOH (BAC = 0.03)</td>
</tr>
</tbody>
</table>
Session XXIX
Classifying a Suspect (Role Play)

Classifying a Suspect (Role Play)
Upon successfully completing this session the student will be able to:

- Conduct a complete drug influence evaluation using the systematic and standardized 12-step process
- Compile a complete, clear and accurate report documenting the results of a drug influence evaluation using the 13-step component narrative report format

QUESTIONS?
**DRUG INFLUENCE EVALUATION**

**REPORT NUMBER:**

**TYPE OF EVALUATION:**

**EVALUATOR:**

**SCRIBE:**

**WITNESS:**

### ARRESTEE’S NAME (Last, First, Middle)

**Date of Birth** | **Age** | **Sex** | **Race** | **Arresting Officer (Name, ID#)**
--- | --- | --- | --- | ---

**BRAVO**

**Date Examined / Time / Location**

**Breath Results:** Test Refused ☐

**Chemical Test:** Urine ☐ Blood ☐

**Test or tests refused:**

---

**Miranda Warning Given**

**Given By:**

☐ Yes ☐ No

What have you eaten today? When?

“Sandwich” ☐

“Noon” ☐

“Nothing” ☐

How much?

Time of last drink?

N/A

---

**Time now/Actual**

When did you last sleep? How long?

☐ Yes ☐ No

Are you sick or injured?

☐ Yes ☐ No

Are you diabetic or epileptic?

☐ Yes ☐ No

---

**Do you take insulin?**

☐ Yes ☐ No

Do you have any physical defects?

☐ Yes ☐ No

---

**Are you taking any medication or drugs?**

☐ Yes ☐ No

---

**Speech:** Normal

**Breath Odor:** Normal

---

**Corrective Lenses:**

☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft

**Eyes:**

☐ Reddened Conjunctiva

**Bloodshot** ☐

**Waterdepth** ☐

---

**Pupil Size:**

☐ Equal ☐ Unequal (explain)

---

**Pulse and time**

1. **120 /**

2. **116 /**

3. **118 /**

---

**Romberg Balance**

Walk and turn test

---

**Eyelid Tremors**

---

**Internal clock**

17 estimated as 10 seconds

---

**Draw lines to spots touched**

---

**Blood pressure**

168/100

---

**Temperature**

98.6°

---

**Muscle tone**

☐ Near Normal ☐ Flaccid ☐ Rigid

---

**What drugs or medications have you been using?**

“Nothing man, it’s all good.”

---

**How much?**

Time of use?

Where were the drugs used? (Location)

---

**Date / Time of arrest:**

Time DRE was notified:

---

**Evaluation start time:**

---

**Evaluation completion time:**

---

**Opinion of Evaluator:**

☐ Depressant ☐ Hallucinogen ☐ Narcotic Analgesic

☐ Alcohol ☐ Medical Rule Out

☐ Stimulant ☐ Inhalant ☐ No Opinion

---

**Officer’s Signature:**

---

**Felony Offense:**

**Misdemeanor Offense:**

---

**REVIEWED/APPROVED BY / DATE:**
DRUG INFLUENCE EVALUATION

REPORT NUMBER: 144
TYPE OF EVALUATION: EVALUATOR: XXIX-3
ARRESTEE'S NAME: CHARLIE
Date of Birth: XXIX-10
Race: SEX: Age: "No"
Arresting Officer: (Name, ID#)

Date Examined / Time / Location: Breath Results: Test Refused: Instrument #: Chemical Test: Urine Blood Test or tests refused: 0.00 000871 1234

Miranda Warning Given: 

Time now / Actual: When did you last sleep? How long: What have you been drinking? How much: Time of last drink: N/A

Do you take insulin? Do you have any physical defects? Are you under the care of a doctor or dentist?

Are you taking any medication or drugs?

Anxiety: Speech: SLOW to respond, CONFUSED Breath Odor: Normal

Coordination: SLOW, RIGID movements

Pupil Size: X Equal □ Unequal (explain):

Lack of Smooth Pursuit

Maximum Deviation

Angle of Onset

Immedi

Immedi

1st time 2nd time

Stop walking

Starts too soon

Misses heel-toe

Steps off line

9

9

ON LEG STAND

L

R

Sways while balancing

Uses arms to balance

Hopping

Puts foot down

Reminded twice to count out loud

Type of footwear: Lace-up boots

Nasal area: Clear

Oral cavity: Clear

PUPIL SIZE:

Room light

Darkness

Direct

Left Eye

Right Eye

HIPPUS

REBOUND DILATION

X No

X No

REACTION TO LIGHT: Normal

RIGHT ARM

LEFT ARM

No Visible Marks

Blood pressure

170/95

Temperature

100.6°

Muscle tone:

Near Normal □ Flaccid X Rigid

Comments: Arms very rigid

What drugs or medications have you been using? "Drugs... Nothing man"

How much?

Time of use?

Where were the drugs used? (Location)

Date / Time of arrest:

Time DRE was notified: Evaluation start time: Evaluation completion time: Province/Station:

Opinion of Evaluator: Depressant □ Stimulant □ Hallucinogen □ Inhalant □ No Opinion

Officer's Signature: Felony Offense: Misdemeanor Offense: Reviewed/approved by / date:
**Drug Influence Evaluation**

**Report Number:**

**Type of Evaluation:**

**Arrrestee’s Name:** (Last, First, Middle)

**Date of Birth:**

**Age:**

**Sex:**

**Race:**

**Arresting Officer (Name, ID#):**

**Date Examined / Time / Location:**

**Breath Results:**

**Test Refused:**

**Chemical Test:**

**Test Refused:**

**Time of Last Drink:**

**When did you last sleep?**

**How Long?**

**Are you sick or injured?**

**Are you diabetic or epileptic?**

**Do you take insulin?**

**Do you have any physical defects?**

**Are you under the care of a doctor or dentist?**

**Are you taking any medication or drugs?**

**Passive, Uncooperating**

**Coordination:**

**Speech:**

**Corrective Lens:**

**Glasses:**

**Contacts, if so:**

**Hard**

**Soft**

**Eyes:**

**Reddened Conjunctiva**

**X Normal**

**Bloodshot**

**Watery**

**Blindness:**

**X None**

**Left**

**Right**

**Tracking:**

**X Equal**

**Unequal**

**Pupil Size:**

**X Equal**

**Unequal (explanation):**

**Convergent:**

**Fovea:**

**Squint:**

**Lag:**

**Linkage:**

**Visual Acuity:**

**Able to follow stimulus:**

**X Yes**

**X No**

**Eye lids:**

**X Equal**

**Unequal**

**Pulse and time:**

**Right Eye:**

**Left Eye:**

**Maximum Deviation:**

**None**

**None**

**Walk and turn test:**

**Cannot keep balance:**

**Stays too soon:**

**Starts to sway:**

**Stops walking:**

**Misses heel-toe:**

**Steps off line:**

**Raises arms:**

**Actual steps taken:**

**Counted slowly, very unsteady:**

**One Leg Stand:**

**X Sways while balancing:**

**Uses arms to balance:**

**Hopping:**

**Puts foot down:**

**Four fresh puncture wounds on left forearm:**

**Blood Pressure:**

**108/60**

**Temperature:**

**97.0°**

**Muscle tone:**

**Normal**

**Flaccid**

**Rigid**

**What drugs or medications have you been using?**

**Honest man, I’m clean**

**How much?**

**Time of use?**

**Where were the drugs used? (Location)**

**Date / Time of arrest:**

**Time DRE was notified:**

**Evaluation start time:**

**Evaluation completion time:**

**Opinion of Evaluator:**

**Depressant**

**Hallucinogen**

**Narcotic Analytic**

**Cannabis**

**Medical i.e. Opiate**

**Medical i.e. Alcoholic**

**Narcotic i.e. Opiate**

**Narcotic i.e. Alcoholic**

**Opinion of Witness:**

**Felony Offense:**

**Misdemeanor Offense:**

**Reviewed/approved by / date:**

---

**Evaluator:**

**LACP#:**

**XXIX-4**

**SCRIBE:**

**WITNESS:**

**H.S. 172**

**R1/07**

**XXIX-11**
**DRUG INFLUENCE EVALUATION**

**REPORT NUMBER:**

**TYPE OF EVALUATION:**

**ARRESTEE'S NAME:**

**ECHO**

**Date Examined / Time / Location:**

**Breath Results:**

**Chemical Test:**

**Miranda Warning Given:**

**Given By:**

**When did you last sleep?**

**Are you sick or injured?**

**What have you eaten today?**

**What have you been drinking?**

**Are you diabetic or epileptic?**

**Do you take insulin?**

**Do you have any physical defects?**

**Are you under the care of a doctor or dentist?**

**Are you taking any medication or drugs?**

**Speech:**

**Corrective Lenses:**

**Pupil Size:**

**Pulse and time:**

**Rommel Balance:**

**Head slumped forward.**

**Draw lines to spots touched:**

**Head nodded forward. Didn't use left hand.**

**Blood pressure**

**Temperature**

**Muscle tone:**

**Comments:**

**What drugs or medications have you been using?**

**How much?**

**Time of use?**

**Where were the drugs used? (Location)**

**Date / Time of arrest:**

**Time DRE was notified:**

**Evaluation start time:**

**Evaluation completion time:**

**Opinion of Evaluator:**

**Officer's Signature:**

**FELONY OFFENSE:**

**EVALUATOR:**

**IACP#:**

**SCRIBE:**

**WITNESS:**

**X**

**Non-facilitated,**

**Normal Balance**

**Right Eye**

**Left Eye**

**Right eye**

**Left eye**

**X**

**Yes No**

**N/A**

**N/A**

**N/A**

**N/A**

**N/A**

**One Leg Stand**

**L R**

**Sways while balancing**

**Uses arms to balance**

**Hopping**

**Puts foot down**

**Test stopped for safety reasons**

**Type of footwear: Boots**

**PUPIL SIZE**

**Room light**

**Darkness**

**Direct**

**Nasal area:**

**Clear**

**Oral cavity:**

**Clear**

**N/A**

**N/A**

**N/A**

**Reaction to light: None**

**RIGHT ARM**

**LEFT ARM**

**Two fresh puncture wounds on inside left forearm.**

**XX**

**XXIX-12**
DRUG INFLUENCE EVALUATION

REPORT NUMBER: XXIX-6

TYPE OF EVALUATION: WITNESS:

ARRESTEE'S NAME (Last, First, Middle):

FREEMAN

Date of Birth: 9/30/1974 Age: 42 Sex: M Race: W

Date Examined / Time / Location: 1/4/98 8:30 AM

Breath Results: Test Refused

Results: 0.00

Chemical Test: Urine □ Blood □ Test or tests refused □

Instrument #: 1234

Miranda Warning Given By:

□ Yes □ No

What have you eaten today? When?

□ Chips & Cookies “10 am” □ Nothing

□ Yes □ No

What have you been drinking? How much?

□ Yes □ No

Time of last drink?

Are you taking any medication or drugs?

□ Yes □ No “Not now”

Are you taking any medication or drugs?

Speech:

Talkative

Corrective Lenses: □ X None □ Contact• □ ophthalmic □ Hard □ Soft

Eye: □ Reddened Conjunctiva □ Normal □ Bloodshot □ Watery

Blindness: □ X None □ Left □ Right

Tracking: □ X Equal □ Unequal

Pupil Size: □ X Equal □ Unequal (explain)

Pulse and time

112 / 110 / 110

Lack of Smooth Pursuit

Maximum Deviation

Angle of Onset

Convergence

Cannot keep balance:

Starts too soon

Stop walking

Misses heel-toe

Steps off line

Raises arm

Actual steps taken

ONE LEG STAND

Walk and turn test

Laughter during test. Had to be reminded to count out loud.

Describe Turn: Abrupt swivel

Cannot do test (explain) N/A

Type of footwear: Sandals

Nasal area: Clear

Oral cavity: Clear

Blood pressure

Temperature

160/98

98.6°

Muscle tone:

□ X Near Normal □ Fluid □ Rigid

Comments:

What drugs or medications have you been using?

"None"

How much?

Time of use?

Where were the drugs used? (Location)

N/A

N/A

Date / Time of arrest:

Time DRE was notified:

Evaluation start time:

Evaluation completion time:

Precinct/Station:

Opinion of Evaluator:

□ Depressant □ Hallucinogen □ Narcotic Analgesic

□ Stimulant □ Dissociative Anesthetic □ Miscellaneous

□ Inhalant □ Cannabis □ Other

□ Medical Rule Out

□ No Opinion

Officer's Signature:

Felony Offense:

Misdemeanor Offense:

Reviewed/approved by / date:
**DRUG INFLUENCE EVALUATION**

**REPORT NUMBER:**

**TYPE OF EVALUATION:**

**ARRESTEE'S NAME (Last, First, Middle):**

**Date of Birth:**

**Age:**

**Sex:**

**Race:**

**Arresting Officer (Name, ID#):**

**DATE EXAMINED / TIME / LOCATION:**

**Date Examined:**

**Time Examined:**

**Location:**

**BREATH TESTS:**

**Results:**

**Instrument:**

**Chemical Test:**

**Time of last drink:**

**DRE TESTS:**

**Alertness:**

**Orientation:**

**Speech:**

**Gait:**

**Posture:**

**Muscle tone:**

**Reflexes:**

**PUPIL SIZE:**

**Blood pressure:**

**Temperature:**

**BLOOD ALCOHOL LEVEL:**

**TOXICOLOGY:**

**Time of DRE:**

**Evaluation start time:**

**Evaluation completion time:**

**OFFICER'S COMMENT:**

**OPINION OF EVALUATOR:**

**OFFICER'S SIGNATURE:**

**EVALUATOR:**

**IACP#:**

**XXIX-7**

**SCRIBE:**

**WITNESS:**

**Are you taking any medication or drugs?**

**Yes** / **No**

**"I told you, I don't do drugs!"**

**Attitude:**

**Excited, Upset, Animated**

**Coordination:**

**Unsteady, Jittery**

**Are you under the care of a doctor or dentist?**

**Yes** / **No**

**"Why are you doing this?"**

**Speech:**

**Talkative, rapid**

**Breath Odor:**

**Normal**

**Corrective Lenses:**

**X None**

**X Glasses**

**Contacts, if so**

**Hard**

**Soft**

**Eyes:**

**Reddened Conjunctiva**

**Normal**

**Bloodshot**

**Water**

**Blindness:**

**X None**

**Left**

**Right**

**Tracking:**

**X Equal**

**Unequal**

**Pupil Size:**

**X Equal**

**Unequal (explain)**

**Vertical Nystagmus:**

**Yes**

**No**

**Able to follow stimuli:**

**Yes**

**No**

**Eyelids:**

**X Normal**

**Droopy**

**Face:**

**Sweaty**

**Romberg Balance:**

**Walk and turn test**

**Circular Sway**

**Internal clock**

**18 estimated as 30 seconds**

**Draw lines to spots touched**

**PUPIL SIZE**

**Left Eye**

**Room Light**

**Darkness**

**Direct**

**Right Eye**

**7.0**

**9.0**

**6.5**

**Hippus**

**Yes**

**No**

** rebound dilatation**

**Yes**

**No**

**Reaction to light:**

**Slow**

**Type of footwear:**

**Boots**

**Nasal area:**

**Redness in nostrils**

**Oral cavity:**

**Clear**

**What drugs or medications have you been using?**

"I told you, Quit asking me that!"

**How much?**

**Time of use?**

**Where were the drugs used?**

**Location**

**Date / Time of arrest:**

**Time DRE was notifted:**

**Evaluation start time:**

**Evaluation completion time:**

**Prescent / Station:**

**Opinion of Evaluator:**

**Depressant**

**Stimulant**

**Hallucinogen**

**Disasoc. Anesthetic**

**Nerotic Analgetic**

**Cocaine**

**Cannabis**

**Alcohol**

**Medical Role Out**

**No Opinions**

**Officer's Signature:**

**Felony Offense:**

**Misdemeanor Offense:**

**Reviewed / Approved by / Date:**

---

**Remember:**

**Heads only:**

**Eyes:**

**X Open**

**X Closed**

**X Unequal**

**X Convergent**

**X Divergent**

**X Oscillating**

**X Nystagmus**

**X Paralytic**

**Start too soon**

**Diagnose steps walking**

**Misstep heel toe**

**Steps off line**

**Raises arms**

**Actual steps taken**

**Counted quickly, stumbled over his numbers**

---

**No visible marks**
**DRUG INFLUENCE EVALUATION**

**REPORT NUMBER:** XXIX-9

**TYPE OF EVALUATION:**

**ARRESTEE'S NAME:**
- **Last:**
- **First:**
- **Middle:**
- **Date of Birth:**
- **Age:**
- **Sex:**
- **Race:**
- **Arresting Officer (Name, ID):**

**LOCATION:**

**Date Examined / Time / Location:**
- **Breath Results:**
  - **Test Refused:**
  - **Results:**
  - **Instrument #: 1234**
  - **Chemical Test:**
  - **Blood:**
  - **Test or tests refused:**

**Miranda Warning Given:**
- **Yes**
- **No**

**Eyes:**
- **Reddened Conjunctiva:**
- **Bloodshot:**
- **Watery:**

**Corrective Lenses:**
- **None**
- **Glasses**
- **Contacts, if so**
- **Hard**
- **Soft**

**Pupil Size:**
- **Equal**
- **Unequal (explain):**

**Attitude:**
- **Cooperative, Confused**

**Coordination:**
- **Stumbling, Staggering**

**Speech:**
- **Low, Slow, Mumbling**
- **Breath Odor:**
  - **Gas-like odor**

**Vision:**
- **Right Eye:**
  - **Lack of Smooth Pursuit**
  - **Maximum Deviation**
  - **Angle of Onset**
- **Left Eye:**
  - **Yes**
  - **No**

**Convergence:**
- **Right eye**
- **Left eye**

**Romberg Balance:**
- **Lost balance and nearly fell.**

**Walk and turn test:**
- **Cannot keep balance**
- **Starts too soon**
- **Steps off line**
- **Steps off line**
- **Steps off line**
- **Steps off line**
- **Misses heel-toe**
- **Misses heel-toe**

**Lost balance and nearly fell.**

**Internal clock:**
- **42 estimated at 20 seconds.**

**Describe Turn:**
- **Staggered**

**PUPIL SIZE:**
- **Room light**
  - **Left Eye:**
  - **5.0**
  - **6.5**
  - **3.5**
- **Right Eye:**
  - **5.0**
  - **6.5**
  - **3.5**

**HIPPUS LTD:**
- **Yes**
- **No**

**REBOUND DILATATION:**
- **Yes**
- **No**

**Reaction to Light:**
- **Normal**

**Headache:**
- **No**

**Hunger:**
- **Yes**
- **No**

**Fatigue:**
- **Yes**
- **No**

**Break in consciousness:**
- **Yes**
- **No**

**Definition:**
- **Sleep:**
- **Polyphagia:**
- **Diabetes:**
- **Alcohol:**

**Type of Footwear:**
- **Boots**

**Blood Pressure:**
- **148/88**

**Temperature:**
- **98.8\(^\circ\)C**

**Muscle tone:**
- **Near Normal**
- **Flaccid**
- **Rigid**

**Comments:**

**What drugs or medications have you been using?**
- **N/A**

**How much?**
- **N/A**

**Time of use?**
- **N/A**

**Where were the drugs used? (Location)**
- **N/A**

**Date / Time of arrest:**
- **Time DRE was notified:**
- **Evaluation start time:**
- **Evaluation completion time:**

**Opinion of Evaluator:**
- **Depressed**
- **Hallucinogens**
- **Narcotic Analgesic**
- **Cannabis**
- **Medical Role Out**
- **Depressed, Anesthetic**
- **Inhale**
- **Alcohol**
- **No Opinion**

**Officer's Signature:**
- **Felony Offense:**
- **Misdemeanor Offense:**

**Reviewed/approved by / Date:**
# Drug Influence Evaluation

**Report Number:**

**Type of Evaluation:**

**Witness:**

<table>
<thead>
<tr>
<th>ARRESTEE’S NAME (Last, First, Middle)</th>
<th>Date of Birth</th>
<th>Age</th>
<th>Sex</th>
<th>Race</th>
<th>Arresting Officer (Name, ID#)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Date Examined / Time / Location**

<table>
<thead>
<tr>
<th>Breath Results</th>
<th>Test Refused</th>
<th>Instrument #</th>
<th>Chemical Test</th>
<th>Test or tests refused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results 0.06</td>
<td></td>
<td>1234</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Miranda Warning Given**

- [ ] Yes
- [ ] No

**What have you eaten today?**

- [ ] Yes
- [ ] No

**What have you been drinking?**

- [ ] Yes
- [ ] No

**How much**

- [ ] Yes
- [ ] No

**Time of last drink?**

- [ ] Yes
- [ ] No

**Do you take insulin?**

- [ ] Yes
- [ ] No

**Do you have any physical disabilities?**

- [ ] Yes
- [ ] No

**Are you under the care of a doctor or dentist?**

- [ ] Yes
- [ ] No

**Speech:**

- [ ] Low, Mumbling
- [ ] Alcoholic Beverage
- [ ] Cooperative, Withdrawn
- [ ] Unsteady

**Corrective Lenses:**

- [ ] X None
- [ ] Glasses
- [ ] Contacts, if any
- [ ] Hard
- [ ] Soft

**Blood Odor:**

- [ ] X Reddened Conjunctiva
- [ ] X Bloodshot
- [ ] Normal
- [ ] Watery

**Pupil Size:**

- [ ] X Equal
- [ ] Unequal (explain)

**Pulse and time**

1. **82**
2. **80**
3. **80**

**Romberg Balance**

- [ ] Walk and turn test
- [ ] M

**Circular Sway**

- [ ] Right eye
- [ ] Left eye

**Internal clock:**

- X 38 estimated vs. 30 seconds

**Describe Turn:**

- [ ] Proper, Slow
- [ ] Cannot do test (explain) N/A

**Type of footwear:**

- [ ] Boots

**Nasal area:**

- [ ] Clear

**Oral cavity:**

- [ ] Clear

**Hippus:**

- [ ] Yes
- [ ] No

**Rebound Dilation:**

- [ ] Yes
- [ ] No

**Reaction to Light:**

- [ ] Normal

**Blood pressure:**

- [ ] 128/84

**Temperature:**

- [ ] 98.7°

**Muscles tense:**

- [ ] Near Normal
- [ ] Flaccid
- [ ] X Rigid

**What drugs or medications have you been using?**

- [ ] "Nothing"

**How much?**

- [ ] N/A

**Time of use?**

- [ ] N/A

**Where were the drugs used? (Location)**

- [ ] N/A

**Date / Time of arrest:**

**Time DRE was notified:**

**Evaluation start time:**

**Evaluation completion time:**

**Precinct/Station:**

**Opinion of Evaluator:**

- [ ] Depressant
- [ ] Hallucinogen
- [ ] Narco-Analgesic
- [ ] Cannabis
- [ ] Inhalant
- [ ] Alcohol
- [ ] Medical Role Out
- [ ] No Opinion

**Officer’s Signature:**

- [ ] Felony Offense: Misdemeanor Offense:

**Reviewed/approved by / date:**
DRUG INFLUENCE EVALUATION

REPORT NUMBER: XXIX-12

TYPE OF EVALUATION: SCRIE:

ARRESTEE'S NAME (Last, First, Middle) LIMA

Date of Birth Age Sex Race Arresting Officer (Name, ID#)

Date Examined / Time / Location Breath Results Test Refused Instrument #: Chemical Test: Urine Blood Test or tests refused

Miranda Warning Given What have you eaten today? When? What have you been drinking? How much? Time of last drink?

Time now/ Actual “Eggs and Toast” “Now” “Wine” “One glass”

Do you take insulin? Do you have any physical defects?

Are you taking any medication or drugs?

Attitude: Speech: Rapid, slurred Breath Odor: Alcoholic Beverage Face: Normal

Corrective Lenses: X None Glasses: X Contacts, if any X Hard X Soft

Eyes: X Reddened Conjunctiva X Normal Bloodshot Watery

Blindness: X None X Left X Right Tracking: X Equal X Unequal

Pupil Size: X Equal X Unequal (explain)

Convergence

ONE LEG STAND 102

Sways while balancing 102

Uses arms to balance 102

Hopping 102

Puts foot down

Counted quickly

Draw lines to spots touched

Kept opening eyes. Quick movements. Blood pressure

170/96 Temperature

99.6

Muscle tone: X Flaccid Rigid

COMMENTS: What drugs or medications have you been using? "Nothing, just a little wine"

How much? N/A

Time of use? N/A

Where were the drugs used? (Location) N/A

Date / Time of arrest: Time DRE was notified: Evaluation start time: Evaluation completion time: Precise/Station:

Opinion of Evaluator: X Depressant X Stimulant X Hallucinogens X NARCOTIC ANALGESIC X Cannabis X Inhale X No Opinion

Misdemeanor Offense: Reviewed/approved by / date:

OFFICER'S SIGNATURE: Felony Offense:

HS 172 R1/07 XXIX-19
GUIDELINES FOR ROLE PLAYERS

As a "role player", you have the important task of helping students practice the administration and interpretation of the drug influence evaluations. You will also be expected to coach the students as they are practicing. To help insure that you do the best possible job, please follow these guidelines carefully.

1. **Study** the exemplar for your assigned role play carefully and thoroughly. Become familiar with all of the information it contains. **You do not have to memorize the exemplar.** Instead, you will carry the exemplar with you, and you will refer to it as the students administer their tests to you. But you must be familiar with the exemplar to make sure that you give the students all of the information they need to classify "your" drug category or categories.

2. **Do not** attempt to "act" impaired. Let the information on the exemplar speak for itself.

3. **Start** by informing the students of your role play "name" (Alpha, Bravo, etc.). State your actual age. Instruct students to record your actual sex and race, and the actual date and time.

4. **Inform** the students of the BAC for your role.

5. **For the Preliminary Examination:**
   a. Answer each **question** exactly as indicated on your exemplar.
   b. Instruct students to record your answers exactly as you give them.
   c. Allow students to conduct the preliminary examinations of your **eyes.** **Coach** them as necessary during the preliminary eye checks to make sure they conduct the checks properly. When they have finished, tell them to record the information given on your exemplar.
   d. Allow students to conduct the first check of your **pulse.** **Coach** them as necessary during to make sure that they check pulse properly. When they have finished, tell them to record the information given on your exemplar.

6. **For the Eye Examinations:**
   a. Allow the students to conduct the full tests of Horizontal Gaze Nystagmus, Vertical Gaze Nystagmus and Lack of Convergence. **Coach** them as necessary to make sure they conduct the tests properly.
b. As they complete each test, instruct them to record the information given on your exemplar.

7. For the Psychophysical Tests:
   a. **Do not** actually perform the Romberg test. Instead, allow the students to give you the Balance test instructions, then comment on their performance in giving the instructions. Tell them to record the Romberg test information given on your exemplar.
   
   b. **Do not** actually perform the Walk and Turn test. Instead, place your feet in the heel-to-toe stance for the "instructions stage" and allow the students to give you the Walk and Turn instructions. When the instructions are completed, comment on the students' performance in giving the instructions. Then, tell them to record the Walk and Turn information given on your exemplar.
   
   c. **Do not** actually perform the One Leg Stand test. Instead, allow the students to give you the One Leg Stand instructions (for one leg), then comment on their performance in giving the instructions. Tell them to record the One Leg Stand information given on your exemplar.
   
   d. You **will** have to perform the Finger-to-Nose test, since students give instructions throughout that test. **Try** to place your finger tips on the points indicated in the diagram on your exemplar. When the test is completed, **show** the diagram to the students and instruct them to replicate it on their record form.

8. For the Vital Signs Examinations:
   a. Allow the students to conduct the full checks of blood pressure, temperature and pulse. **Coach** the students as necessary to make sure they conduct the tests properly.
   
   b. As they complete each test, instruct them to record the information given on your exemplar.

9. For the Dark Room Examinations:
   a. Allow the students to conduct the full checks of pupil size, pupil reaction to light, nasal area and oral cavity. **Coach** them as necessary to make sure they conduct the checks properly.
   
   b. As they complete each check, instruct them to record the information given on your exemplar.
10. Examinations for Muscle Tone and Injection Sites:
   a. Allow the students to conduct these examinations, and coach them as appropriate. Allow students to conduct the third check of your pulse. Coach them as necessary to make sure that they check pulse properly. When they have finished, tell them to record the pulse measurement shown on your exemplar.
   b. Instruct them to record the information given on your exemplar.

11. Give the students the information (if any) contained on the reverse side of your exemplar. Do not make any other statements.

12. When you finish working with one team of students, move on to the next team.
SESSION XXX

TRANSITION TO THE CERTIFICATION PHASE OF TRAINING
SESSION XXX  TRANSITION TO THE CERTIFICATION PHASE OF TRAINING

During this session the student will:

- Demonstrate their mastery of the knowledge and skills the course was intended to help develop.
- Summarize the key topics covered.
- Offer comments and suggestions for improving the course.
- Receive assignments for Field Certification Training.
- Understand the steps involved in the DRE certification process.

Content Segments                  Learning Activities
A. Summary                        o Participant led Presentations
B. Post-Test                      o Participants' Anonymous Critique of Course
C. Critique                       o Knowledge Examination
D. Certification Process, Training Assignments and Schedule
                                     o Instructor led Presentation
E. Closing Remarks
AIDS LESSON PLAN

INSTRUCTOR NOTES

TRANSITION TO THE CERTIFICATION PHASE OF TRAINING

Total Lesson Time:
Approximately 160 Minutes

Display Session Title

15 Minutes

XXX-1 (Title)

XXX-2 (Objectives)

A. Summary

1. The seven categories of drugs.

   a. CNS Depressants
   b. CNS Stimulants
   c. Hallucinogens
   d. Dissociative Anesthetics
   e. Narcotic Analgesics
   f. Inhalants
   g. Cannabis

2. The drug evaluation and classification procedure.

   a. Breath Alcohol Test
   b. Interview of Arresting Officer
   c. Preliminary Examination
   d. Examinations of Eyes
   e. Divided Attention Tests
   f. Vital Signs Examinations

   Ask students to name the seven categories. Make sure all categories are named.

   Ask students to name the components of the procedure. Make sure all components are named. Ask students to discuss the kinds of evidence/information gleaned from each component.
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>g.</td>
<td>Dark Room Examinations</td>
<td>Instruct students to turn to the symptomatology chart in their manuals.</td>
</tr>
<tr>
<td>h.</td>
<td>Check for Muscle Rigidity</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Inspection for Injection Sites</td>
<td>Briefly summarize and review the major signs and symptoms associated with each drug category.</td>
</tr>
<tr>
<td>j.</td>
<td>Statements and Observations</td>
<td>Solicit students' questions concerning the major content topics of the course.</td>
</tr>
<tr>
<td>k.</td>
<td>Opinion of the Evaluator</td>
<td>Inform the students that the final exam in a &quot;closed book&quot; test. Instruct them to put all books and notes away.</td>
</tr>
<tr>
<td>l.</td>
<td>Toxicological Examination</td>
<td>Distribute post-test knowledge examinations.</td>
</tr>
<tr>
<td>3.</td>
<td>Major signs and symptoms.</td>
<td>Allow students approximately 80 minutes to complete the knowledge examination.</td>
</tr>
</tbody>
</table>

B. Post-Test

1. Knowledge Examination.

100 Minutes

C. Critique

15 Minutes

Handout critique forms to the students for completion.
D. Certification Training Assignments and Schedule

1. Remind the students of the three phases of training needed to complete their certification process:
   - Phase I - Pre-School
   - Phase II - DRE School
   - Phase III - Field Certifications

1. Review with the students the IACP International Standards for DRE certification.
   a. IACP Standard 1.10 requires that the candidate DRE satisfactorily complete a minimum of twelve (12) evaluations, identifying subjects under the influence of at least three of the drug categories. All three must be supported by toxicology.
   b. The candidate DRE must also act as the evaluator for at least six evaluations.
   c. All evaluations, either administered or observed must be documented on the candidate’s rolling log.
   d. Candidate DREs need to have toxicology samples from at least nine (9) subjects evaluated during the certification process.
   e. The candidate DRE cannot be certified unless the opinion concerning the drug

Hand out sheets to each student outlining his or her schedule of certification training.

Point out that IACP does not certify DREs. The State is the certifying body. IACP only credentials the DREs by assigning them a DRE number and the DRE paperwork.

Note: The minimum standards for certification are at the back of the instructor manual. (State requirements may be more stringent than the national standards.)
<table>
<thead>
<tr>
<th><strong>Aids</strong></th>
<th><strong>Lesson Plan</strong></th>
<th><strong>Instructor Notes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>category(s) is supported by toxicology 75 percent of the time or in at least seven (7) of the nine samples submitted for certification.</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>Remind students that during certification all evaluations must be supervised by instructors to count towards minimum certification requirements.</td>
<td>Point out that in situations where an instructor is not available to observe a student evaluation, the student should check the local policy governing this. These evaluations do NOT count toward certification requirements.</td>
</tr>
<tr>
<td>3. Field Certifications</td>
<td>a. Remind the students of what will be needed for the field certifications.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Should include the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o DRE kits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Certification Progress Log</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o DRE Student Manual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Rolling Log</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o A “prepared mind”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Remind the students that DRE field certifications must be completed as soon as possible following completion of the classroom training.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Remind the students that by the time they have completed field certification(s), they candidate shall have</td>
<td></td>
</tr>
</tbody>
</table>

IACP DEC Program
International Standard 1.13

IACP DEC Program
International Standard 1.14
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>prepared a Curriculum Vitae (C.V.)</td>
<td></td>
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</tbody>
</table>

4. Final Certification Knowledge Examination

a. Prior to concluding the certification process, the candidate DRE must satisfactorily complete an IACP approved Certification Knowledge Examination.

b. The Final Certification Knowledge Examination is a multi-part comprehensive examination where the student can not make significant errors or omissions.

c. Examination consists of five parts which tests the candidate DRE’s knowledge of the drug symptomatology matrix, drug effects, drug combinations and report writing skills.

5. After each component required for certification is completed, a DRE Instructor must sign off on the DRE candidate’s log.

Point out that the Certification Knowledge Exam can be given during the field certifications but only once the candidate has completed not less than three drug evaluations.

IACP DEC Program International Standard 1.12
<table>
<thead>
<tr>
<th>Aids</th>
<th>Lesson Plan</th>
<th>Instructor Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXX-8&amp;9</td>
<td>a. The candidate DRE must be recommended for certification by two DRE instructors.</td>
<td>Solicit questions from students regarding the field certifications and certification process.</td>
</tr>
<tr>
<td>(Certification &amp; Maintaining Proficiency)</td>
<td>6. DRE Certification</td>
<td>Closing remarks will be offered by appropriate representatives of the department and faculty.</td>
</tr>
<tr>
<td></td>
<td>a. DRE certification is for a period of two years.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. Once certified, DREs shall be required to renew their certificates of continuing proficiency every two years.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Continuing proficiency requires:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Performing a minimum of four (4) acceptable drug evaluations since the last date of certification;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Completing a minimum of eight (8) hours of approved recertification training; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Presenting an updated C.V. and Rolling Log to the appropriate coordinator for review.</td>
<td></td>
</tr>
<tr>
<td>E. Closing Remarks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Session XXX
Transition to the Certification Phase of Training

The Three Phases of Training for the DEC Program
Certification involves three-phase training process:
1. Phase I - Two-day (16-hour) Pre-school
2. Phase II - Seven-day (56-hour) DRE School
3. Phase III - Field Certifications (usually within 60 to 90 days, but not longer than six months following the completion of the classroom training)

Transition to the Certification Phase of Training
During this session the student will:
- Demonstrate their mastery of the knowledge and skills the course was intended to help develop
- Summarize the key topics covered
- Offer comments and suggestions for improving the course
- Receive their assignments for Field Certification Training

Field Evaluations Requirements
- 12 evaluations (minimum)
- 3 toxicology samples collected
- 7 positive (confirmed) toxicology samples from the lab
- 5 of the 12 evaluations conducted - YOU must be the evaluator
- 3 of the 7 drug categories must be encountered
- Evaluations must be witnessed and supervised by a DRE Instructor

Field Certifications
What's needed for the Field Certification nights?
- DRE kits
- Certification Progress Log
- Your Student Manual
- Your Rolling Log
- A prepared mind

The Final Certification Knowledge Examination
Standard 1.12...Prior to concluding field certification training, the candidate shall satisfactorily complete an approved “Certification Knowledge Examination.”

...The examination shall only be administered after the candidate has completed not less than three drug evaluations.
Final Certification Knowledge Examination

- A multi-part, comprehensive examination
- No significant errors or omissions allowed
- Examines candidate's overall knowledge

IACP Certification Progress Log

- After each component required for certification is completed, a DRE Instructor must sign off on your log
- You must be recommended for certification by two DRE instructors
  - Instructors will sign off in the Authorized Signature portion at the bottom of the Progress Log

How Long Am I Certified For?

- DRE Certification is good for two years
- DRE's shall be required to renew their certificate of continuing proficiency every two years

How Do I Maintain Proficiency?

IACP International Standard 3.4...A DRE shall demonstrate continuing proficiency by:
1. Performing a minimum of four (4) acceptable evaluations since the date of last certification...
2. Completing a minimum of eight (8) hours of recertification training...
3. Presenting an updated Curriculum Vitae and Rolling Log to the appropriate coordinator for review and approval.

QUESTIONS?

Congratulations!
INSTRUCTOR'S GUIDELINES FOR THE FINAL EXAMINATION

ADMINISTERING THE FINAL EXAMINATION

The NHTSA and IACP approved Final Examination (Form A) appears on the pages immediately following. The Answer Sheet appears immediately after the examination. Each student must receive one copy of the examination and an answer sheet. To guard against loss of a copy of the examination, do not simply hand over a large supply of examinations to the first row of students and ask them to "pass them back". Instead, instructors must physically hand a single copy to each individual student. EMPHASIZE THAT STUDENTS MUST WRITE NOTHING ON THE EXAMINATION ITSELF. When a student completes the test, make sure you collect their copy of the examination along with the answer sheet. Carefully inspect the copy of the examination to make sure nothing has been written on it. Destroy completely any copies that have been marked in any way.

GRADING THE EXAMINATION

The Final Examination contains 100 multiple choice questions. A student must correctly answer at least 80 questions to pass the examination and progress to Certification Training. A student who is totally correct on at least 80 questions passes. A student who answers 21 or more questions incorrectly fails.

WHAT DO WE DO WHEN A STUDENT FAILS?

The International Standards established for this program by IACP, and endorsed by NHTSA, grant every student who fails the Final Examination one additional attempt to pass. BUT PLEASE NOTE THAT SOME OF THE STATES AND LAW ENFORCEMENT AGENCIES PARTICIPATING IN THE DRUG EVALUATION AND CLASSIFICATION PROGRAM HAVE ADOPTED A MORE EXACTING STANDARD. For example, some agencies will not allow a "failed" student a second attempt unless he or she scored at least 70 on the first attempt.

All participating agencies have the right to set standards that are more stringent than those promulgated by IACP. Therefore, when a student fails the Final Examination, your first duty is to determine whether the student qualifies for a second attempt.

Assuming a "failed" student qualifies, the second attempt cannot occur sooner than two weeks following the completion of the school, and must occur not later than four weeks after the schools end. In other words, there is an enforced waiting period of two weeks, to provide time for remedial study; then, there is a two week "window of opportunity". NO EXCEPTION CAN BE MADE TO THIS.

During the two week waiting period, the student is expected to study the Manual and their class notes. Tutoring by certified DRE instructors is permissible and encouraged. However, if you tutor a "failed" student, be sure that you do not simply "teach the test".
DO NOT GO OVER THE FINAL EXAMINATION WITH THE STUDENT. DO NOT LET HIM OR HER KNOW WHICH QUESTIONS WERE ANSWERED INCORRECTLY. Do use the available quizzes and other study guides to help tutor the student. These include the "Challenge Quiz" found at the end of the PRE-School Student's Manual; the Pre-test for this School; the five quizzes that are used in this School; and, the "Self-Test for Review and Study" that is found at the end of Session XXVIII of the DRE School Student's Manual.

One thing that the "failed" student cannot do during the two-week waiting period is formally enroll in Certification Training. It is permissible for him or her to attend Certification Training events as an observer. But the "failed" student cannot administer any subject evaluations, nor can they serve as the recorder for any evaluations. And, of course, the "failed" student will receive absolutely no credit for any evaluations they observe.

The second attempt at the Final Examination must employ Form B Final Written Examination. This 100-question, multiple choice test appears on the pages immediately following the Form A Answer Sheets. If the student correctly answers at least 80 questions on the second attempt, they pass. If the score is 79 or lower, or if the two to four week "window" elapses and the student has not been re-tested, they irrevocably fail, and are no longer a participant in the Drug Evaluation and Classification Program. The only way that the student can be re-admitted to the Program would be to enroll in another DRE School, complete it in its entirety, and pass the Final Examination.
PROFICIENCY EXAMINATION CHECKLIST
(For Use During Certification Training)

Student's Name ____________________________________________________________

Date _____________________ Examiner _______________________________________

I. Preliminary Examination

1. Did the student ask all preliminary examination questions?
   ______yes  ______no

   (If No: What questions were deleted? ________________________________
   __________________________________________________________________

2. Did the student properly estimate pupil size?
   ______yes  ______no

3. Did the student properly assess the eyes' tracking ability?
   ______yes  ______no

4. Did the student properly measure pulse rate?
   ______yes  ______no

II. Eye Examinations

1. Did the student properly administer the Horizontal Gaze Nystagmus test?
   ______yes  ______no

   (If no, explain deficiencies ____________________________________________
   __________________________________________________________________

2. Did the student properly administer the Vertical Gaze Nystagmus test?
   ______yes  ______no

   (If no, explain deficiencies ____________________________________________
   __________________________________________________________________

   ________________________________
3. Did the student properly administer the test for Lack of Convergence?
   _______yes       _______no

   (If no, explain deficiencies ________________________________

   ____________________________________________________________

III. Psychophysical Tests

1. Did the student properly administer the Romberg Balance test?
   _______yes       _______no

   (If no, explain deficiencies ________________________________

   ____________________________________________________________

2. Did the student properly administer the Walk and Turn test?
   _______yes       _______no

   (If no, explain deficiencies ________________________________

   ____________________________________________________________

3. Did the student properly administer the One Leg Stand test?
   _______yes       _______no

   (If no, explain deficiencies ________________________________

   ____________________________________________________________

4. Did the student properly administer the Finger To Nose test?
   _______yes       _______no

   (If no, explain deficiencies ________________________________

   ____________________________________________________________
V. **Vital Signs Examinations**

1. Did the student properly measure blood pressure?

   ______ yes       ______ no

   (If no, explain deficiencies ____________________________

2. Did the student properly measure temperature?

   ______ yes       ______ no

   (If no, explain deficiencies ____________________________

3. Did the student properly measure pulse?

   ______ yes       ______ no

   (If no, explain deficiencies ____________________________

IV. **Dark Room Examinations**

1. Did the student properly control the pen light for the two checks of pupil size?

   ______ yes       ______ no

   (If no, explain deficiencies ____________________________

2. Did the student accurately estimate pupil size?

   ______ yes       ______ no

3. Did the student properly check the nasal area?

   ______ yes       ______ no
4. Did the student properly check the oral cavity?
   _______yes  _______no

VI. Examinations of Muscle Tone

1. Did the student adequately inspect for muscle tone?
   _______yes  _______no

   (If no, explain deficiencies ____________________________________________
    ________________________________________________________________

V. Examinations of Injection Sites and Third Pulse

1. Did the student adequately inspect for injection sites?
   _______yes  _______no

   (If no, explain deficiencies ____________________________________________
    ________________________________________________________________

2. Did the student properly measure pulse?
   _______yes  _______no

   (If no, explain deficiencies ____________________________________________
    ________________________________________________________________

VII. Evaluator's Opinion of Student's Proficiency

   (Offer appropriate, specific comments concerning the student's progress)
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
Eye Examinations

Physiology & Drugs: An Overview

Examination of Vital Signs

Demonstration of the Evaluation Sequence

Central Nervous System Depressants
Review Session XXIX

Classifying A Suspect (Role Play)

Transition to the Certification Phase

XXX

XXIX