Acknowledgments

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

Sergeant Frank Barnes
Oklahoma City, OK Police Department

Sergeant Kyle Clark
Naples, FL Police Department

Sergeant Don Decker
Marblehead, MS Police Department

Lt. Colonel Darrell Fisher
Nebraska State Patrol

Ernie Floegel
IACP

Chuck Hayes
IACP

Bob Hohn
NHTSA

Dean Kuznieski
NHTSA

Officer Tim Lafferty
Mesa, Az Police Department

Sergeant Doug Paquette
New York State Police

Sergeant Tim Plummer
Oregon State Police

Officer Michael Rose
Prince Georges County Police Department

DRUG EVALUATION AND CLASSIFICATION TRAINING
"THE DRUG RECOGNITION EXPERT SCHOOL"

ADMINISTRATOR'S GUIDE

JANUARY 2007

HS 172 R1/07

TABLE OF CONTENTS

A. Purpose of this Document 1

B. Overview of the Course 4
1. For whom is the training intended? 4
2. What are the purposes of the course? 7
3. What will the students get out of this course? 7
4. What subject matter does the course cover? 8
5. What activities take place during the training? 9
6. How long does the training take? 9
The DRE School - Schedule 13
Alternate Schedule #1 15
Alternate Schedule #2 18
Alternate Schedule #3 22

C. Overview of the Curriculum Package 26
1. Instructor's Lesson Plans Manual 26
2. Audio-Visual Aids 28
3. Student's Manual 29
4. Set of Drug Evaluation Exemplars 29

D. General Administrative Requirements 30
1. Facility Requirements 30
2. Special Instructional Equipment and Personnel. 31
3. Instructor Qualifications. 32
4. Class Size Considerations. 33

E. Course Planning and Preparation Requirements 33

F. Examinations of Students' Knowledge and Proficiency 34

G. Follow-Up Requirements 34

H. Guidelines for Preparing Post-Course Evaluation 35

I. Requests for Information, Assistance or Materials 37

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 <u>not</u>**:

- These procedures are <u>not</u> 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 :

- o 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;
- o 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;
- o specifically facilitate testing for drugs other than alcohol.

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

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

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

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

- Case Preparation and Testimony.

- Curriculum Vitae (C.V.) Preparation and Maintenance.

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.

THE DRE SCHOOL - SCHEDULE (page 1)

WEDNESDAY	THURSDAY	FRIDAY
0800-0850 SESSION I: Intro & Overview	0800-0850 SESSION V: (cont)	0800-0850 SESSION IX: CNS Depressants
0850-0900 BREAK	0850-0900 BREAK	0850-0900 BREAK
0900-1000 SESSION I: (cont)	0900-1005 SESSION VI: Physiology & Drugs (Overview)	0900-1000 SESSION IX: (cont)
1000-1010 BREAK	1005-1015 BREAK	1000-1010 BREAK
1010-1030 Pre-Test	1015-1110 SESSION VI: (cont)	1010-1100 SESSION X: CNS Stimulants
1030-1120 SESSION II: Drugs In Society	1110-1120 BREAK	1100-1110 BREAK
1120-1130 BREAK	1120-1200 SESSION VII: Vital Signs	1110-1200 SESSION X: (cont)
1130-1230 SESSION III: Development of DEC Program	1200-1300 LUNCH	1200-1300 LUNCH
1230-1330 LUNCH	1300-1400 SESSION VII: (cont)	1300-1400 SESSION XI: Eye Examinations
1330-1440 SESSION IV: Overview of DEC Procedures	1400-1410 BREAK	1400-1415 BREAK
1440-1450 BREAK	1410-1430 SESSION VII: (cont)	1415-1700 SESSION XII: Alcohol Workshop
1450-1550 SESSION IV: (cont)	1430-1515 SESSION VIII: Demo's of the Evaluation Sequence	
1550-1600 BREAK	1515-1530 BREAK	
1600-1630 SESSION IV: (cont)	1530-1605 SESSION VIII: (cont)	
1630-1730 SESSION V: Eye Examinations	1605-1635 QUIZ NUMBER ONE	

THE DRE SCHOOL - SCHEDULE (page 2)

MONDAY		TUESDAY		WEDNESDAY		THURSDAY	
0800-0830	SESSION XIII: PDR & Other References	0800-0820	QUIZ NUMBER TWO	0800-0915	SESSION XXIV: Drug Combinations	0800-1000	FINAL EXAM
0830-0915	SESSION XIV: Hallucinogens	0820-0850	SESSION XVII: (cont)	0915-0930	SESSION XXIV: (cont)	1000-1015	BREAK
0915-0930	BREAK	0850-0900	BREAK	1005-1050	SESSION XXV: Practice Test Interp.	1015-1200	SESSION XXIX: Classifying a Suspect-Role Play
0930-1030	SESSION XIV: (cont)	0900-0945	SESSION XVIII: Practice Test Interp.	1050-1100	BREAK	1200-1300	LUNCH
1030-1045	BREAK	0945-1020	SESSION XIX: Inhalants	1100-1200	SESSION XXVI: Narrative Report	1300-1600	ADMINISTRATION OF THE TEST VALIDATION
1045-1130	SESSION XV: Test Interpret.	1020-1030	BREAK	1200-1300	LUNCH	1600-1630	SESSION XXX: Transition to Certification Training
1130-1200	SESSION XVI: Dissociative Anesthetics	1030-1130	SESSION XIX: (cont)	1300-1430	SESSION XXVII: Test Interpretation	1630-1700	Course Critique; Closing Remarks/Certificates
1200-1300	LUNCH	1130-1145	BREAK	1430-1445	BREAK		
1300-1410	SESSION XVI: (cont)	1145-1300	SESSION XX: Vital Signs & Exams	1445-1530	SESSION XXVIII: Case Preparation and Testimony		
1410-1420	BREAK	1300-1400	LUNCH	1530-1545	BREAK		
1420-1515	SESSION XVII: Narcotics	1400-1530	SESSION XXI: Cannabis	1545-1630	SESSION XXVIII: (cont)		
1515-1530	BREAK	1530-1540	BREAK	1630-1700	QUIZ NUMBER FOUR		
1530-1630	SESSION XVII: (cont)	1540-1640	SESSION XXII: Overview of Signs and Symptoms	1700-1800	BREAK		
1630-1730	SESSION XVII: (cont)	1640-1650	BREAK	1800-2000	OPTIONAL REVIEW SESSION #2		
1730-1800	BREAK	1650-1730	SESSION XXIII: C.V. Preparation & Maintenance				
1800-2030	OPTIONAL REVIEW SESSION #1	1730-1800	QUIZ NUMBER THREE				

ALTERNATE SCHEDULE #1
COMBINED PRE-SCHOOL AND 7-DAY SCHOOL

Time	Session Title	**D** - 7-day DRE School **P** - Pre-School	Duration
8:00A - 10:00A	Introduction and Overview	D	2hrs
10:00A - 11:00A	Drugs and Society	D	1hr
11:00A - 12:00P	Development and Effectiveness	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 3:30P	Overview of DRE Classification Procedures	D	2.5hrs
3:30P - 5:00P	Psychophysical Tests	P	1.5hrs
	END OF DAY		
8:00A - 11:00A	Eye Examinations	D	3hrs
11:00A - 12:00P	Vital Signs	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:30P	Vital Signs (cont.)	D	1.5hrs
2:30P - 4:00P	Overview of Signs and Symptoms	P	1.5hrs
4:00P - 5:00P	Alcohol as a Drug	P	1hr
	END OF DAY		
8:00A - 9:30A	Demonstration of the Evaluation Sequence	D	1.5hrs
9:30A - 12:00P	Physiology of Drugs	D	2.5hrs
12:00P - 1:00P	Lunch		1hr
1:00P - 2:30P	Central Nervous System Depressants	D	1.5hrs
2:30P - 5:00P	Alcohol Workshop All Instructors	P	2.5hrs
	END OF DAY		

Time	Session Title	**D** - 7-day DRE School **P** - Pre-School	Duration
8:00A - 9:00A	Central Nervous System Depressants (cont.)	D	1hr
9:00A - 11:30A	Central Nervous System Stimulants	D	2.5hrs
11:30A - 12:00P	Quiz Number One	D	.5hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:00P	Eye Examinations	D	1hr
2:00P - 2:30P	PDR and Other Drug References	D	.5hr
2:30P - 5:00P	Review and Pre-School Final Examination	P	2.5hrs
	END OF DAY		
8:00A - 10:00A	Hallucinogens	D	2hrs
10:00A - 11:00A	Practice Test Interpretation	D	1hr
11:00A - 12:00P	Dissociative Anesthetics	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:00P	Dissociative Anesthetics (cont.)	D	1hr
2:00P - 4:00P	Mid-Course Review All Instructors	D	2hrs
	END OF DAY		
8:00A - 11:00A	Narcotic Analgesics	D	3hrs
11:00A - 12:00P	Practice Test Interpretation	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:00P	Inhalants	D	1hr
2:00P - 3:00P	Practice Vital Signs All Instructors	D	1hr
3:00P - 4:00P	Quiz Number Two	D	.5hr
	END OF DAY		

Time	Session Title	**D** - 7-day DRE School **P** - Pre-School	Duration
8:00A - 11:00A	Cannabis	D	3hrs
11:00A - 12:00P	Overview of Signs and Symptoms	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:00P	Drug Combinations	D	1hr
2:00P - 2:30P	Quiz Number Three	D	.5hr
2:30P - 5:00P	Alcohol Workshop All Instructors	D	2.5hrs
	END OF DAY		
8:00A - 9:00A	Drug Combinations	D	1hr
9:00A - 10:00A	Practice Test Interpretation	D	1hr
10:00A - 11:00A	Preparing the Narrative Report	D	1hr
11:00A - 12:00P	Practice Test Administration All Instructors	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 2:30P	Case Preparation and Testimony	D	1.5hrs
2:30P - 3:00P	Quiz Number Four	D	.5hr
3:00P - 5:00P	Final Course Review All Instructors	D	2hrs
	END OF DAY		
8:00A - 11:00A	Final Examination All Instructors	D	3hrs
11:00A - 12:00P	Transition to Certification Training	D	1hr
12:00P - 1:00P	Lunch		1hr
1:00P - 3:00P	Classifying a Suspect (Role Play) All Instructors	D	2hrs
3:00P - 4:00P	Graduation		2hrs

ALTERNATE SCHEDULE #2
COMBINED DWI DETECTION AND STANDARDIZED FIELD SOBRIETY, PRE-SCHOOL AND 7-DAY SCHOOL

WEEK ONE **Day One**	DURATION
Block I - *Introduction and Overview* (merger of DWI Detection and SFST manual session I and the DRE manual session I) *SFST and DRE School Pre-tests*	2hrs
Block 2 - *Definition of drug and overview of the drug categories* (modified Pre-School session I, Introduction and Overview)	1hr
Block 3 - *Detection and Deterrence* (SFST manual session II)	1hr
Block 4 - *The Legal Environment* (SFST manual session III)	45min
Block 5 - *Overview of Detection, Notetaking and Testimony* (SFST manual session IV)	45min
Block 6 - *Phase One: Vehicle in Motion* (SFST manual session V)	1hr
Block 7 - *Phase Two: Personal Contact* (SFST manual session VI)	1hr
Block 8 - **Phase Three: Pre-Arrest Screening** (SFST manual session VII)	30min
DAY TWO	
Block 9 - *Concepts and Principles of the SFST* (SFST manual session VIII, segments A (development and validity) and B (types of nystagmus)	1hr
Block 10 - *Eye examinations* (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)	1hr
Block 11 - *Psychophysical Tests* (Pre-School manual session III, segments A and B, Romberg and Walk and Turn)	1hr
Block 12 - *Psychophysical Tests* (Pre-School manual session III, segments C and D, One Leg Stand and Finger to Nose)	1hr
Block 13 - *SFST Battery Demonstrations* (SFST manual session IX, plus Romberg and Finger to Nose, utilizing the DRE order)	1hr
Block 14 - *SFST Dry Run Practice* (SFST manual session X, plus Romberg and Finger to Nose, in the DRE order)	1hr
Block 15 - *Alcohol Correlation Study #1* (merger of SFST manual session XI and Pre-School manual session V)	2hrs

DAY THREE	DURATION
Block 16 - *Alcohol as a Drug* (Pre-School manual session VIII)	2hrs
Block 17 - *Overview of Signs and Symptoms* (Pre-School manual session VII)	1hr
Block 18 - *Eye Examinations* (Pre-School manual session IV, beginning with B4 (estimation of pupil size) through 5 (reaction to light)).	1hr
Block 19 - *Drugs in Society and in Motor Vehicle Operation* (DRE manual session II)	1hr
Block 20 - *Development and Effectiveness* (DRE manual session III)	2hrs
Block 21 - *Review Session - SFST curriculum*	1hr
DAY FOUR	
Block 22 - *SFST Course Final Examination* (SFST manual session X)	30min
Block 23 - *Eye Examinations - Practice Session* (merger of the practice sessions in DRE manual session XI and Pre-School manual session IV)	30min
Block 24 - *Examination of Vital Signs* (merger of Pre-School manual session VI and DRE manual session VII)	3hrs
Block 25 - *Overview of Drug Evaluation and Classification Procedures* (merger of Pre-School manual session II and DRE manual session IV)	1hr
Block 26 - *Demonstrations of the Evaluation Sequence* (DRE manual session VIII)	2hrs
Block 27 - *Review Session - Pre-School Curriculum*	1hr
DAY FIVE	
Block 28 - *Pre-School Final Examination* (Pre-School manual session X)	30min
Block 29 - *Physiology and Drugs: An Overview*	4hrs
Block 30 - *SFST Report Writing* (SFST manual session XIII and SFST practice session)	1hr, 30min
Block 31 - *Alcohol Correlation Study #2* (merger of Pre-School manual session V and SFST manual session XIV; includes SFST Proficiency Test)	2hrs

WEEK TWO **DAY SIX**	DURATION
Quiz #1	30min
Block 32 - *Physician's Desk Reference, CPS and Additional Resources* (DRE manual session XIII)	2hrs
Block 33 - *Methods of Administration and Elimination* (Note: This is not a current standard manual session, but is an LAPD curriculum addition)	30min
Block 34 - *Central Nervous System Depressants* (DRE manual session IX)	2hrs
Block 35 - *Central Nervous System Stimulants* (DRE manual session X)	3hrs
DAY SEVEN	
Quiz #2	30min
Block 36 - *Hallucinogens* (DRE manual session XIV)	2hrs
Block 37 - *Practice: Test Interpretation* (DRE manual session XV)	1hr
Block 38 - *Dissociative Anesthetics* - (DRE manual session XVI)	2hrs
Block 39 - *Narcotic Analgesics* (DRE manual session XVII, including examination of injection marks)	2hrs, 30min
DAY EIGHT	
Quiz #3	30min
Block 40 - *Inhalants* (DRE manual session XIX)	1hr, 30min
Block 41 - *Practice: Test Interpretation* (DRE manual session XVIII)	1hr
Block 42 - *Cannabis* (DRE manual session XXI)	2hrs
Block 43 - *C.V. Preparation and Maintenance* (DRE manual session XXIII)	1hr
Block 44 - *Practice: Vital Signs* (DRE session XX)	30min
Block 45 - *Alcohol Correlation Study #3* (DRE manual session XII)	1hr, 30min
DAY NINE	
Quiz #4	30min
Block 46 - Overview of Signs and Symptoms (DRE manual session XXII)	1hr
Block 47 - Drug Combinations (DRE manual session XXIV)	2hrs
Block 48 - Practice Session: Eye Examinations (Note: Students practice the pupil size examinations in this segment. There is no standard lesson plan for this segment.)	1hr

DAY NINE (cont)	
Block 49 - *Practice: Test Interpretation* (DRE manual session XXV)	1hr
Block 50 - *Practice: Test Administration* (DRE manual session XXVII)	30min
Block 51 - *Review of the DRE School* *Quiz #5 is also incorporated into this session.*	2hrs
DAY TEN	
Block 52 - *DRE School Final Examination* (DRE manual session XXX)	1hr
Block 53 - *Preparing the Narrative Report* (DRE manual session XXVI)	1hr
Block 54 - *Case Preparation and Testimony* (DRE manual session XXVIII)	1hr
Block 55 - *Classifying a Suspect* (Role Plays) (DRE manual session XXIX)	3hrs
Block 56 - *Transition to Certification Phase of Training* (DRE manual session XXX)	1hr
Block 57 - *Graduation - Presentation of Certificates and Achievement Awards* (Note: Course critiques are finished during this segment.)	1hr

ALTERNATE SCHEDULE #3
ACCELERATED DRE SCHOOL

Week One				
Day	Time	Manual	Session/Segment	Title
Monday	(1) 1000 to 1200	SFST DRE	Session I Session I	*Introduction & Overview (SFST Script and Matrix Handouts)*; student/instructor introductions
	1200 to 1300			*SFST & DRE Pre-tests*
	(2) 1300 to 1400	Pre-School	Session I	*Introduction*
	1400 to 1500			Lunch Break
	(3) 1500 to 1545	SFST	Session II	*Detection and Deterrence*
	(4) 1545 to 1630	SFST	Session III	*The Legal Environment*
	(5) 1630 to 1730	SFST	Session IV	*Overview of Detection, Notetaking & Testimony*
	(6) 1730 to 1815	SFST	Session V	*Phase One: Vehicle in Motion & Explanation of Divided Attention Impairment*
	(7) 1815 to 1900	SFST	Session VI	*Phase Two: Personal Contact*
Tuesday	(8) 1200 to 1230	SFST	Session VII	*Phase Three: Pre-Arrest Screening* (modified PBT Session)
	(9) 1230 to 1330	SFST	Session VIII/A, B	*Concepts and Principles of the SFST* (development and types of nystagmus)
	(10) 1330 to 1400	Pre-School	Session IV/A & B, 1, 2, & 3	*Eye Exams* (Purpose of Eye examinations, procedures and clues for HGN, VGN and LOC)
	(11) 1400 to 1500	Pre-School	Session III/A & B	*Romberg & Walk and Turn*
	(12) 1500 to 1600	Pre-School	Session III/C&D	*One Leg Stand & Finger to Nose*
	1600 to 1700			Lunch Break
	(13) 1700 to 1800	SFST	Session IX	*SFST Test Battery Demonstrations* (includes Romberg, Finger to Nose in DRE order)
	(14) 1800 to 1900	SFST	Session X	*SFST "Dry Run" Practice* (includes Romberg, Finger to Nose, in DRE order)
	(15) 1900 to 2100	SFST Pre-School	Session IX Session V	*Alcohol Correlation Study #1* - coordinator; wrap-up; bartender; log; vitals

Wednesday	(16) 1000 to 1200	Pre-School	Session VIII	*Alcohol as a Drug* (Magic Mountain Video alcohol driving study)
	(17) 1200 to 1300	Pre-School	Session VII	*Overview of Signs and Symptoms* (distribution of blank drug matrix)
	(18) 1300 to 1400	Pre-School	Session IV/B4, 5	*Eye Exams* (pupil size & reaction to light)
	1400 to 1500			Lunch Break
	(19) 1500 to 1600	DRE	Session II	*Drugs in Society and Motor Vehicle Operation*
	(20) 1600 to 1800	DRE	Session III	*Development and Effectiveness*
	(21) 1800 to 1900			*SFST Review Session*
Thursday	(22) 1000 to 1030	SFST	Session X	*Final Examination*
	(23) 1030 to 1100	DRE Pre-School	Session XI Session IV	*Eye Exams: Practice Session*
	(24) 1100 to 1300	Pre-School DRE	Session VI Session VII	*Examination of Vital Signs*
	1300 to 1400			*Vital Signs: Practice*
	1400 to 1500			Lunch Break
	(25) 1500 to 1600	Pre-School DRE	Session II Session IV	*Overview: Drug Evaluation and Classification Process* (LETN & Chevron tapes)
	(26) 1600 to 1800	DRE	Session VIII	*Demonstrations of the Evaluation Sequence*
	(27) 1800 to 1900			*Pre-School Review Session*
Friday	(28) 1200 to 1230	Pre-School	Session X	*Final Examination*
	(29) 1230 to 1530	DRE	Session VI	*Physiology and Drugs: An Overview*
	1530 to 1630			Lunch Break
	1630 to 1730			*Physiology and Drugs: Physiological Pursuit*
	(30) 1730 to 1800	SFST	Session XIII	*Report Writing*
	1800 to 1900			*SFST Practice*
	(31) 1900 to 2100	Pre-School SFST	Session V Session XIV	*Alcohol Correlation Study #2 & SFST Proficiency Test* - coordinator; wrap-up; log; vitals; bartender

Week Two				
Day	Time	Manual	Session/Segment	Title
Monday	1000 to 1030			*DRE Quiz #1*
	(32) 1030 to 1230	DRE	Session XIII	*Physician's Desk Reference & Additional Resources*
	(33) 1230 to 1330	non-manual session		*Methods of Administration & Elimination*
	(34) 1330 to 1400	DRE	Session IX	*CNS Depressants*
	1400 to 1500			Lunch Break
	1500 to 1630	DRE	Session IX	*continued*
	(35) 1630 to 1900	DRE	Session X	*CNS Stimulants*
Tuesday	1000 to 1030			*DRE Quiz #2*
	1030 to 1130	DRE	Session X/E	*continued*
	(36) 1130 to 1230	DRE	Session XIV	*Hallucinogens*
	1230 to 1300	DRE	Session XIV	*continued*
	(37) 1300 to 1400	DRE	Session XV	*Practice: Test Interpretation* (includes Clinton Williams evaluation)
	1400 to 1500			Lunch Break
	(38) 1500 to 1600	DRE	Session XVI	*Dissociative Anesthetics*
	1600 to 1700	DRE	Session XVI/E	*continued*
	(39) 1700 to 1900	DRE	Session XVII/ includes E	*Narcotic Analgesics*
Wednesday	1200 to 1230			*DRE Quiz #3*
	1230 to 1330	DRE	Session XVII	*Injection Marks Examination*
	(40) 1330 to 1430	DRE	Session XIX	*Inhalants*
	(41) 1430 to 1530	DRE	Session XVIII	*Practice: Test Interpretation*
	(42) 1530 to 1700	DRE	Session XXII	*Cannabis*
	1700 to 1800			Lunch Break
	(43) 1800 to 1900	DRE	Session XXIII	*C.V. Preparation & Maintenance*
	(44) 1900 to 1930	DRE	Session XX	*Practice: Vital Signs*
	(45) 1930 to 2100	DRE	Session XII	*Alcohol Correlation Study #3 - coordinator; wrap-up; vitals; bartender; log*

Thursday	1000 to 1030			*DRE Quiz #4*
	(46) 1030 to 1130	DRE	Session XXII	*Overview of Signs & Symptoms*
	(47) 1130 to 1330	DRE	Session XXIV	*Drug Combinations*
	(48) 1330 to 1430	non-manual session		*Practice: Eye Exams*
	1430 to 1530			Lunch Break
	(49) 1530 to 1630	DRE	Session XXV	*Practice: Test Interpretation*
	(50) 1630 to 1700	DRE	Session XXVII	*Practice: Test Administration*
	(51) 1700 to 1900			*DRE Full Course Review "Your Brain on DRE"* *DRE Quiz #5*
Friday	(52) 1000 to 1100			*Final Examination: DRE School*
	(53) 1100 to 1200	DRE	Session XXVI	*Preparing the Narrative Report*
	(54) 1200 to 1300	DRE	Session XXVIII	*Case Preparation & Testimony*
	1300 to 1400			Lunch Break
	(55) 1400 to 1700	DRE	Session XXIX	*Classifying a Suspect: Role Plays* - coordinator
	(56) 1700 to 1800	DRE	Session XXX	*Transition to the Certification Phase of Training*
	(57) 1800 to 1900			*Graduation: Presentation of Certificates and Achievement Awards*

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.

3. Student's Manual

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:

- 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.

- 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.

- 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. <u>But</u>, the instructor will tell the students to <u>record</u> 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. <u>General Administrative Requirements</u>

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 <u>training</u> 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:

- 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

<u>Analysis Procedures</u>

Step 1: Tabulate total number of responses in each category for each activity.

Step 2: The following values should be applied:

- +2 for each "very important"
- 0 for each "somewhat important"
- -2 for each "un-important"
- -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.

One Hour and Fifty Minutes

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.

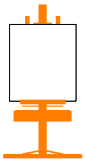
Content Segments	Learning Activities
A. Welcoming Remarks and Goal	o Instructor Led Presentations
B. Participant Introductions	o Participant Led Presentations
C. Objectives	o Knowledge Examination
D. Overview of Content and Schedule	o Reading Assignments
E. Overview of Student Manual	
F. Administrative Matters	
G. Glossary of Terms	

Aids	Lesson Plan	Instructor Notes
 I-1 (Title)	**INTRODUCTION AND OVERVIEW**	Total Lesson Time: Approximately 110 Minutes Display Session Title
 I-2 (Objectives)		Briefly review the content, objectives and activities of this session.
 10 Minutes	**A. Welcoming Remarks and Goal**	
	1. Welcome to the seven day DRE School.	**Brief** welcoming remarks by the lead-off instructor (not longer than one minute).
 I-3 (Goal)	2. The goal of this school is simple: To help you prevent crashes, deaths and injuries caused by drug-impaired drivers.	
 I-3A (MD Study)	a. Maryland Shock Trauma Center study (1985-1986) 32 percent of drivers treated at the Shock Trauma Center had used marijuana prior to their crashes.	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.
 I-3B (TN Study)	b. University of Tennessee study (1988) 40 percent of drivers treated at Trauma Center for crash injuries had drugs other than alcohol in them.	Emphasize that these studies clearly show that drug impaired driving is a major problem in this country.

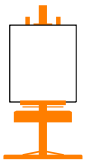
Aids	Lesson Plan	Instructor Notes
		Instructor note: Remind students that all studies published are subject to interpretation. For more information contact NHTSA, The National Traffic Law Center, or the IACP DEC Technical Advisory Panel.
 I-3C (NHTSA Study)	c. NHTSA (1992) 17.8 percent of 1,882 operators involved in fatal crashes from thirteen sites tested positive for drugs other than alcohol.	Study by Terhune, Ippolito, Hendricks, etc. The 13 sampling sites were from the states of California, Massachusetts, Nevada, North Carolina, Texas, Virginia and Wisconsin.
 I-3D (WA State Study)	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).	Source: Combined Drug & Alcohol Use In Fatally Injured Drivers in Washington State, Journal of Forensic Sciences, Schwilke, et al 2006
 I-3E (Incidence of Drugged Driving)	e. In 2003, one out of six high school seniors admitted driving under the influence of drugs.	Source: SADD, 2003

Aids	Lesson Plan	Instructor Notes
	f. In 2004, 10.6 million people reported driving under the influence of an illicit drug during the past year .	National Survey on Drug Use and Health (NSDUH) report: Drugged Driving Update, 2005
	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.	Point out that the students will hear more about this research later today.
	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.	Mention the various agencies represented among the instructors and the students in this school.

Aids	Lesson Plan	Instructor Notes
	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.	
	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.	
	B. Introductions	
25 Minutes	1. Introduction of representatives of host agencies and other dignitaries.	The introductions of dignitaries, and their welcoming remarks, must be kept brief: no more than 10 minutes can be devoted to this.
	2. Introduction of faculty.	The lead-off instructor should mention the names and agency affiliations of all other instructors, asking each to stand as their name is called.
	3. Students' introductions.	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.
10 Minutes	**C. Objectives**	
	1. If you successfully complete this School, you will be able to:	
I-4A (First Three	a. Describe the involvement of drugs in impaired driving incidents.	

Aids	Lesson Plan	Instructor Notes
Objectives)	b. Name the seven categories of drugs and recognize their effects.	
	c. Describe and properly conduct the drug influence evaluation.	
	d. Document the results of the drug influence evaluation.	
I-4B (Next Two Objectives)	e. Properly interpret the results of the evaluation.	
	f. Prepare a narrative Drug Influence Report.	
I-3C (Last Three Objectives)	g. Testify clearly and convincingly in drug evaluation cases.	
	h. Maintain an up to date DRE Curriculum Vitae (C.V.).	
	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	
25 Minutes		
	1. Major content topics	Refer to wall charts in previewing the content topics.
	a. Drugs in society and in vehicle operation.	<u>Briefly</u> overview the contents covered under each major topic.

Aids	Lesson Plan	Instructor Notes
	b. Development and effectiveness of the Drug Evaluation and Classification (DEC) Program.	
	c. Overview of the DEC Procedures.	
	d. Eye Examinations (a major component of the DEC procedures).	
	e. Physiology and Drugs.	
	f. Vital signs examinations (a major component of the DEC procedures).	
	g. The seven categories of drugs.	
	h. The Physicians's Desk Reference (PDR) and other reference sources.	
	i. Interviewing suspects (a major component of the DEC procedures).	
	j. Curriculum Vitae (C.V.) preparation and maintenance.	
	k. Case preparation and testimony.	
	l. Classifying a suspect (interpreting and documenting the results of an examination)	Solicit students' questions concerning the content topics.
	2. Hands-on practice sessions.	Emphasize that hands on practice is the principal learning activity of this course.

Aids	Lesson Plan	Instructor Notes
	a. Eye Examinations practice (Nystagmus, Lack of Convergence, pupil size and reaction to light)	Refer to wallchart outlining practice sessions.
	b. Alcohol workshop (psychophysical testing practice)	Point out that volunteer drinkers from outside the class will be recruited for this session.
	c. Practicing interpretation of the examination results.	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.
	d. Vital signs examinations practice (pulse, blood pressure)	
	e. Practicing administration of the drug influence evaluation.	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.
	f. Simulated drug impaired subjects examinations.	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.
	3. Course schedule.	Refer students to the schedule shown in their manuals.

Aids	Lesson Plan	Instructor Notes
		Briefly overview the schedule of sessions. Solicit students' questions concerning the schedule.
 25 Minutes	**E. Overview of Student Manual**	
	1. The student manual is the basic reference document for this course.	Make sure each student has a copy of the student manual.
	a. The manual contains a summary of presentations made by instructors throughout the classroom training.	
	b. The manual includes a set of "class notes" for every session in the course.	Point out that the student manual has a separate chapter, or section, for each session of the course. 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.
	2. Students are expected to use the manual to review the material covered in class.	
	3. The manual should also be used to preview the class sessions.	Encourage students to read the appropriate student manual sessions prior to each day's classes.
	4. By taking good notes, and by studying the manual carefully, students should have no trouble in passing the course.	

Aids	Lesson Plan	Instructor Notes
	5. 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.	Remind students that there will be numerous quizzes during the class.
15 Minutes	**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.)	Emphasize that, if a student misses any portion of this school, he or she must make up the deficiency via after hours tutoring before beginning certification training.
	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

I-1

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

Drug Evaluation & Classification Training I-2

Ultimate Goal of the Program

To help you prevent crashes, deaths and injuries caused by drug-impaired drivers

Drug Evaluation & Classification Training I-3

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

Drug Evaluation & Classification Training I-3A

University of Tennessee Study (1988)

40% of drivers receiving emergency treatment had used drugs prior to the crash

Drug Evaluation & Classification Training I-3B

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

State of Washington (2003)

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?

Drug Evaluation & Classification Training

DRUG EVALUATION AND CLASSIFICATION TRAINING
QUIZ NUMBER ONE

NAME _____

AGENCY _____ DATE _____

1. As we have defined it for this course, a "drug" is a substance which can impair _____.

   A. the Central Nervous System
   B. the ability to operate a vehicle safely
   C. the ability to control actions, perceptions or sensations
   D. the sensation of pain or discomfort
   E. the ability to function productively in society

2. Valium can best be described as _____.

   A. an analog of PCP
   B. a Non-Barbiturate
   C. an Anti-Depressant
   D. an anti-anxiety tranquilizer
   E. a mood elevator

3. Ingesting drugs from two or more drug categories is called _____.

   A. getting wired
   B. drug loading
   C. synergism
   D. polydrug use
   E. speedballing

4. Monitoring the Future national survey from 2003 concluded that ____ high school seniors admitted driving under the influence of drugs.

   A. 1 out of 4
   B. 1 out of 6
   C. 1 out of 10
   D. 1 out of 15
   E. 1 out of 20

5. In the Los Angeles Field Validation Study, slightly more than _____ percent of the subjects examined were found to have more than one drug in them.

   A. 15%
   B. 25%
   C. 35%
   D. 50%
   E. 70%

6. Which of the following usually produces dilated pupils?

   A. ETOH
   B. Percodan
   C. Ketamine
   D. Desoxyn
   E. Demerol

7. The afferent nerves are also known as the _____ nerves.

   A. autotrophic
   B. sympathetic
   C. motor
   D. parasympathetic
   E. sensory

8. What is the artery used in the measurement of blood pressure?

   A. carotid
   B. femoral
   C. radial
   D. brachial
   E. fibular

9. Which of the following would most likely be referred to as a "speedball"?

   A. Crack and Methamphetamine
   B. Cocaine and Heroin
   C. Heroin and PCP
   D. Crack and PCP
   E. Marijuana and PCP

10. What was the landmark Arizona State Supreme Court case that established the admissibility of HGN as evidence of alcohol impairment?

    A. State vs. Harris
    B. State vs. Blake
    C. State vs. Loomis
    D. State vs. Tomanelli
    E. State vs. Dantonio

11. Which of the following represents the correct test sequence?

    A. Walk-and-Turn, Romberg Balance, One-Leg-Stand, Finger-to-Nose
    B. Romberg Balance, One-Leg-Stand, Walk-and-Turn, Finger-to-Nose
    C. Walk-and-Turn, One-Leg-Stand, Finger-to-Nose, Romberg Balance
    D. Romberg Balance, Walk-and-Turn, One-Leg-Stand, Finger-to-Nose
    E. Romberg Balance, Finger-to-Nose, Walk-and-Turn, One-Leg-Stand

12. There are _____ standardized and systematic steps that are performed in a complete DRE drug influence evaluation.

    A. 8
    B. 10
    C. 12
    D. 14
    E. 16

13. The diameters of the pupilometer's circles/semi-circles are indicated in?

    A. Centimeters
    B. Micrometers
    C. Millimeters
    D. Diameters
    E. None of the above

14. The technical term for abnormally large or dilated pupils is _____.

    A. Hippus
    B. Miosis
    C. Mitosis
    D. Ptosis
    E. Mydriasis

15. Nystagmus is defined as _____.

    A. unequal tracking of the eye
    B. involuntary jerking of the eye
    C. smooth tracking of the eye
    D. rapid eye movement
    E. saccadic movement of the eye

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

    A. BAC-50 = Angle
    B. BAC-Angle = 50
    C. Angle-50 = BAC
    D. Angle-BAC = 50
    E. 50-Angle = BAC

17. A sympathomimetic drug _____.

    A. stimulates the Central Nervous System
    B. depresses the parasympathetic nervous system
    C. stimulates the parasympathetic nervous system
    D. depresses the sensory nervous system
    E. depresses the sympathetic nervous system

18. The pulmonary artery is unique because it is the only artery that _____.

    A. carries blood rich in oxygen
    B. carries blood back to the heart
    C. carries blood away from the heart
    D. carries blood depleted of oxygen
    E. carries blood away from the lungs

19. The technical term for an abnormally rapid pulse rate is _____.

    A. Emmacardia
    B. Hypocardia
    C. Bradycardia
    D. Myocardia
    E. Tachycardia

20. Which of the following <u>is not</u> a component (part) of the Sphygmomanometer?

A. Compression Cuff
B. Diaphragm
C. Manometer (Pressure Gauge)
D. Pressure Control Value
E. Pressure Bulb

DRUG EVALUATION AND CLASSIFICATION TRAINING
QUIZ NUMBER TWO

NAME _____

AGENCY _____ DATE _____

1. Someone who is under the influence of Diazepam usually will have _____.

   A. normal sized pupils
   B. constricted pupils
   C. fixed pupils
   D. dilated pupils
   E. unequal pupils

2. Which of the following drugs will usually cause the pupils of the eyes to constrict?

   A. Narcotic Analgesics
   B. Cannabis
   C. Hallucinogens
   D. CNS Depressants
   E. Inhalants

3. The instrument used to measure blood pressure is called a

   A. Spheromanometer
   B. Sphygmomanometer
   C. Spherulomanometer
   D. Sphynoromanometer
   E. Spheroidomanometer

4. Which one of the following usually will be true in a subject under the influence of a CNS Depressant?

   A. Blood Pressure will be elevated
   B. Lack of Convergence will be present
   C. Body temperature will be below normal range
   D. Pulse will be normal range
   E. Pupils will be constricted

5. Where is the Radial pulse point located?

   A. in the neck
   B. on the wrist
   C. on the forearm
   D. at the elbow
   E. on the bicep

6. Which of the following is <u>not</u> considered a "drug" within the meaning of this course? (circle <u>all</u> that are correct)

   A. Secobarbital
   B. Heroin
   C. Nicotine
   D. Alcohol
   E. Model Airplane Glue

7. What period of time is the suspect supposed to estimate during the Romberg Balance test?

   A. 15 seconds
   B. 30 seconds
   C. 45 seconds
   D. one minute
   E. 90 seconds

8. How does the drug <u>Methaqualone</u> affect the eyes in a way unlike most CNS Depressants?

   _____

9. Ketamine usually produces _____.

   A. Miosis
   B. normal blood pressure
   C. Ptosis
   D. Nystagmus
   E. below normal body temperature

10. What categories of drugs usually <u>will</u> cause a Lack of Convergence?

    (1) _____
    (2) _____
    (3) _____
    (4) _____
    (5) _____

11. The first step in the 12 step process is _____.

    A. interview arresting officer
    B. breath test
    C. check vehicle for evidence
    D. toxicological sample
    E. Attempt to get initial admissions

12. Which one of the following usually will be true in a subject under the influence of a CNS Stimulant?

    A. Pupils will be within the normal range.
    B. HGN and VGN will be present.
    C. Pupil reaction to light will be slowed.
    D. Blood pressure will be normal.
    E. Bradycardia will be present.

13. Which two CNS Depressants usually cause the pupils to dilate?

    A. Soma/Diazepam
    B. Methadone/Xanax
    C. Methaqualone/Soma
    D. Methaqualone/Seconal
    E. Throrazine/Secobarbital

14. A common street name for Methamphetamine is _____.

    A. Super Grass
    B. Crank
    C. Rush
    D. Eve
    E. Dextro

15. Anti-Anxiety Tranquilizers are sometimes called the _____ tranquilizers.

    A. Minor
    B. Anti-Depressant
    C. Major
    D. Non-Barbiturate
    E. Anti-Psychotic

16. The technical term for the "dynamic balance involving levels of salts, water, sugars and other materials in the body fluids" is _____.

    A. Hemostasis
    B. Homeostasis
    C. Hyperstasis
    D. Homostasis
    E. Physiostasis

17. In Horizontal Gaze Nystagmus, what angle of onset would be most consistent with a BAC of 0.15?

    A. 20 degrees
    B. 25 degrees
    C. 30 degrees
    D. 35 degrees
    E. 40 degrees

18. If a person is under the influence of Heroin alone, what is the most likely range of pupil size in room light?

    A. 1.0 - 2.5 mm
    B. 3.0 - 5.0 mm
    C. 3.0 - 6.5 mm
    D. 5.0 - 7.0 mm
    E. 6.5 - 8.5 mm

19. Which of the following usually will NOT cause the pupils to dilate?

    A. MDMA
    B. Peyote
    C. PCP
    D. Methamphetamine
    E. Methaqualone

20. How many distinct validated clues have been established for the One Leg Stand Test?

    A. four
    B. five
    C. six
    D. eight
    E. no validated clues have been established for the One Leg Stand Test

21. Thorazine is _____.

    A. an Anti-Psychotic Tranquilizer
    B. a Non-Barbiturate
    C. an Anti-Anxiety Tranquilizer
    D. a Barbiturate
    E. an Anti-Depressant

22. Ritalin usually produces which of the following?

    A. Bradycardia
    B. Nystagmus
    C. Mydriasis
    D. Miosis
    E. Ptosis

23. Bruxism is defined as _____.

    A. grinding of teeth
    B. severe body tremors
    C. dilated pupils
    D. confused and excited
    E. goose flesh

24. The effects of Cocaine are quickest felt when the drug is _____.

    A. smoked
    B. placed on unprotected skin
    C. snorted
    D. taken orally
    E. injected

25. Which of the following is NOT a validated clue for the Walk and Turn Test?

A. failing to count the steps out loud
B. stepping off the line
C. starting too soon
D. taking the wrong number of steps
E. raising the arms while walking

DRUG EVALUATION AND CLASSIFICATION TRAINING
QUIZ NUMBER THREE

NAME _____

AGENCY _____ DATE _____

1. Which of the following drugs is a CNS Stimulant?

   A. Methamphetamine
   B. Codeine
   C. Secobarbital
   D. Valium
   E. Demerol

2. In a blood pressure measurement, the <u>lower</u> number is called the _____ pressure.

   A. Isobaric
   B. Systolic
   C. Diastolic
   D. Subordinate
   E. Carotid

3. Which of the following drugs is an Hallucinogen?

   A. MDA
   B. THC
   C. Cocaine
   D. PCP
   E. Librium

4. Which of the following usually will not be true in a subject under the influence of PCP? (circle all correct answers)

   A. Blood Pressure will be elevated
   B. Lack of Convergence will be present
   C. Horizontal Gaze Nystagmus will be present
   D. Pulse will be slowed
   E. Pupils will be normal

5. Where is the Brachial pulse point located?

   A. in the neck
   B. on the wrist
   C. on the forearm
   D. in the crook of the arm
   E. on the bicep

6. Which of the following usually will be observed in a subject under the influence of an Hallucinogen?

   A. Horizontal Gaze Nystagmus
   B. Blood Pressure - normal range
   C. Pupils will be constricted
   D. Lack of Convergence
   E. Pulse will be elevated

7. For how long should the suspect stand on each foot during the One Leg Stand test?

   A. 15 seconds
   B. 30 seconds
   C. 45 seconds
   D. one minute
   E. 90 seconds

8. Chloral Hydrate is _____.

   A. a Volatile Solvent
   B. an analog of PCP
   C. a Synthetic Narcotic
   D. a Psychedelic Amphetamine
   E. a Non-Barbiturate

9. For purposes of the DRE examination, the normal range of adult human blood pressure is considered to be _____.

   A. 120-140 / 70-90
   B. 70-90 / 100-120
   C. 100-120 / 70-90
   D. 70-90 / 120-140
   E. We do not attempt to specify normal ranges in the DRE program.

10. Nystagmus is most likely to be caused in a subject under the influence of _____.

    A. LSD
    B. Percodan
    C. Cocaine
    D. Hashish
    E. PCP

11. The chemical name for Heroin is _____.

    A. Morphine Chlorate
    B. Trimethyl Morphine
    C. Diacetyl Morphine
    D. Hydrochloric Morphine
    E. Morphine Sulfate

12. An example of a Synthetic Narcotic Analgesic is _____.

    A. Psilocybin
    B. Methamphetamine
    C. Secobarbital
    D. Demerol
    E. Codeine

13. PCP's observable effects generally last _____hour(s).

    A. one
    B. two to three
    C. four to six
    D. seven to eight
    E. nine to ten

14. The phenomenon known as "Synesthesia" is most commonly associated with _____.

    A. Cannabis
    B. Phencyclidine
    C. Volatile Solvents
    D. CNS Stimulants
    E. Hallucinogens

15. An example of a Hallucinogen is _____.

    A. Demerol
    B. Codeine
    C. Secobarbital
    D. Methamphetamine
    E. Psilocybin

16. If a subject is under the influence of a Hallucinogen, their pupils will usually _____.

    A. be constricted
    B. be dilated
    C. remain within the normal range
    D. exhibit Hippus
    E. exhibit Rebound Dilation

17. Amphetamines produce the same effects as Cocaine with the exception of _____.

    A. pulse rate elevation
    B. pupil dilation
    C. anesthesia
    D. blood pressure elevation
    E. no exception: both Cocaine and Amphetamines produce all four effects listed above

18. The drug _____ belongs to the CNS Depressant category.

    A. Secobarbital
    B. Demerol
    C. Methamphetamine
    D. Psilocybin
    E. Codeine

19. Which of the following is most likely to cause the pupils of the eyes to dilate?

    A. Xanax
    B. Ketamine
    C. Thorazine
    D. Darvon
    E. Methamphetamine

20. When examining a drug-impaired person who is tolerant to the effects of the specific drug, which of the following is the DRE most likely to observe?

A. no signs of impairment
B. psychological signs of impairment
C. clinical signs of impairment
D. clinical and psychophysical signs of impairment
E. psychophysical signs of impairment

DRUG EVALUATION AND CLASSIFICATION TRAINING
QUIZ NUMBER FOUR

NAME _____

AGENCY _____ DATE _____

1. Which of the following drug is a Narcotic Analgesic?

   A. Methamphetamine
   B. Cocaine
   C. Secobarbital
   D. Valium
   E. Demerol

2. Which of the following must you accomplish before you can be certified as a DRE?

   A. Prepare and submit an approved DRE Curriculum Vitae (C.V.)
   B. Qualify as an expert witness in a drug related case.
   C. Personally arrest at least six persons for drug related offenses.
   D. Correctly identify impairment due to at least five drug categories.
   E. Attend five certification training events.

3. Which of the following drugs is a CNS Depressant?

   A. MDA
   B. LSD
   C. Cocaine
   D. Peyote
   E. Xanax

4. Which of the following is a metabolite of THC?

   A. Diacetyl THC
   B. Marinol
   C. Carboxy THC
   D. Hashish
   E. Sinsemilla

5. An Inhalant that produces effects that last several hours is _____.

   A. Amyl Nitrite
   B. Nitrous Oxide
   C. Gasoline
   D. Butyl Nitrite
   E. Isobutyl Nitrite

6. Which of the following is a Volatile Solvent?

   A. Nitrous Oxide
   B. Hydrogen Sulfide
   C. Toluene
   D. Amyl Nitrite
   E. Ketamine

7. In Horizontal Gaze Nystagmus, what <u>onset angle</u> approximately corresponds to a BAC of 0.20?

   A. 15 degrees
   B. 30 degrees
   C. 40 degrees
   D. 45 degrees
   E. 40 degrees

8. The Narcotic Analgesic sometimes called "drug store Heroin", is _____.

   A. Morphine
   B. Codeine
   C. Numorphan
   D. Dilaudid
   E. Hycodan

9. The portion of a DRE trial in which the prosecution and defense question your education, training and work experience is called the _____.

   A. quantum meruit
   B. in capite
   C. voir dire
   D. ad valorem
   E. in extremis

10. The effects of Marijuana usually reach their peak within _____ and will continue for _____.

    A. 5-7 minutes, 30 minutes - 1 hour
    B. 7-10 minutes, 1-2 hours
    C. 8-12 minutes, 1-2 hours
    D. 10-30 minutes, 2-3 hours
    E. 10-15 minutes, 4-6 hours

11. Which of the following usually will be true in a subject who is under the influence of Cannabis?

    A. Pulse rate will be slowed.
    B. Horizontal Gaze Nystagmus will be present.
    C. Pupils will be constricted.
    D. The body temperature will be in the normal range.
    E. None of the above will be true.

12. Reddening of the Conjunctivae is most likely to be observed in a subject under the influence of _____.

    A. Marijuana
    B. Heroin
    C. Alcohol
    D. Ketamine
    E. Peyote

13. The active ingredient found in Cannabis is _____.

    A. Nitrous Oxide
    B. Delta-9 THC
    C. Chloroform
    D. Ptosis
    E. Hycodan

14. Which subcategory of Inhalants usually causes below-normal pulse rate?

    A. Volatile Solvents
    B. Aerosols
    C. Anesthetic Gases
    D. no subcategory: all Inhalants elevate pulse rate
    E. all subcategories: all Inhalants lower pulse rate

15. Suppose you examine a suspect and observe all of the following: BAC is 0.00; Horizontal Gaze Nystagmus is present, but Vertical Gaze Nystagmus is not present; eyes do not converge; pupils are 7.0 mm in room light; pulse is 98 bpm; blood pressure is 148/94; temperature is 98.6; subject complains of dizziness and nausea; and a sticky residue is found on the subject's fingers and upper lip. Subject is badly impaired on all divided attention tests. In your opinion, subject is under the influence of _____.

    A. PCP or an analog of PCP
    B. a combination of a CNS Depressant and an Hallucinogen
    C. a combination of PCP and Cannabis
    D. an Inhalant
    E. a Hallucinogen

16. Suppose a person inhales Amyl Nitrite and becomes intoxicated. Which of the following would you NOT expect to observe in that person?

    A. Lowered blood pressure
    B. Elevated pulse rate
    C. Lack of Convergence
    D. Constricted pupils
    E. Horizontal Gaze Nystagmus

17. The Fentanyls produce the signs and symptoms of _____.

    A. CNS Stimulants
    B. PCP
    C. Narcotic Analgesics
    D. Hallucinogens
    E. CNS Depressants

18. Demerol falls into which drug category?

    A. Narcotic Analgesics
    B. CNS Depressants
    C. Hallucinogens
    D. CNS Stimulants
    E. Inhalants

19. The chemical name for Heroin is _____.

    A. Morphine Chlorate
    B. Trimethyl Morphine
    C. Diacetyl Morphine
    D. Hydrochloric Morphine
    E. Morphine Sulfate

20. An example of a Synthetic Narcotic Analgesic is _____.

    A. Psilocybin
    B. Methamphetamine
    C. Secobarbital
    D. Demerol
    E. Codeine

DRUG EVALUATION AND CLASSIFICATION TRAINING
QUIZ NUMBER FIVE

NAME _____

AGENCY _____ DATE _____

For each question, circle the letters corresponding to all correct answers.

1. The term "drug", as used in this course, means "any substance which, when taken into the human body, can impair ...."

   A. The ability of the person to operate a vehicle safely.
   B. The central nervous system.
   C. The ability to refrain from using the substance again.
   D. The ability to function productively in society.
   E. The ability to control actions, perceptions or emotions.

2. The technical term meaning constricted pupils is ....

   A. Mydriasis
   B. Occulosis
   C. Miosis
   D. Strabismus
   E. Ptosis

3. Chloral hydrate, commonly called "Mickey Finn", is an example of ....

   A. A Narcotic Analgesic
   B. A CNS Depressant
   C. An Hallucinogen
   D. A CNS Stimulant
   E. An Inhalant

4. Amphetamines are examples of ....

   A. CNS Stimulants
   B. CNS Depressants
   C. Inhalants
   D. Narcotic Analgesics
   E. Hallucinogens

5. A person under the combined influence of Heroin and PCP usually will have constricted pupils. This is called _____ Effect.

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

6. Ingesting drugs from two or more drug categories is called ...

   A. Speedballing
   B. Polydrug Use
   C. Synergism
   D. Drug Loading
   E. Roller Coasting

7. In a blood pressure measurement, the <u>lower</u> number is called the _____ pressure.

   A. Isobaric
   B. Brachial
   C. Diastolic
   D. Systolic
   E. Carotid

8. The drug _____ belongs to the CNS Depressant category.

   A. Methamphetamine
   B. Psilocybin
   C. Demerol
   D. Codeine
   E. Secobarbital

9. Which one of the following will cause the pupils of the eyes to <u>constrict</u>?

   A. Cannabis
   B. Dissociative Anesthetics
   C. Hallucinogens
   D. Narcotic Analgesics
   E. CNS Depressants

10. Which one of the following usually will cause the pupils of the eyes to dilate?

    A. The combination of PCP and Heroin
    B. PCP
    C. Hallucinogens
    D. Narcotic Analgesics
    E. Volatile solvents

11. Which one of the following usually will leave body temperature near normal?

    A. CNS Depressants
    B. Narcotic Analgesics
    C. Hallucinogens
    D. Dissociative Anesthetics
    E. CNS Stimulants

12. Which one of the following will usually lower the blood pressure?

    A. Dissociative Anesthetics
    B. CNS Depressants
    C. Hallucinogens
    D. CNS Stimulants
    E. Cannabis

13. A person under the combined influence of Ritalin and LSD usually will have above-normal blood pressure. This is an example of _____.

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

14. On the Walk and Turn test, the subject should be instructed to take nine steps in one direction, and then _____ steps in the other direction.

    A. Ten
    B. Nine
    C. Eight
    D. Seven
    E. Any number other than nine

15. One example of a Synthetic Narcotic Analgesic is _____.

    A. Methamphetamine
    B. Psilocybin
    C. Demerol
    D. Morphine
    E. Heroin

16. Which of the following usually will slow down the pulse?

    A. Cannabis
    B. Dissociative Anesthetics
    C. Inhalants
    D. Narcotic Analgesics
    E. Hallucinogens

17. A person under the influence of an Hallucinogen may report that he or she "hears colors". This is an example of a phenomenon known as ....

    A. Synesthesia
    B. Synchronism
    C. Synarthrosis
    D. Synergism
    E. Synecdoche

18. A suspect under the combined influence of Cannabis and Cocaine does not cause Horizontal Gaze Nystagmus. This is an example of _____.

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

19. Monitoring the Future national survey from 2003 concluded that ____ high school seniors admitted driving under the influence of drugs.

    A. 1 out of 4
    B. 1 out of 6
    C. 1 out of 10
    D. 1 out of 15
    E. 1 out of 20

20. Which sub category of Inhalants usually causes pulse rate to be below normal?

    A. Volatile Solvents
    B. Aerosols
    C. Anesthetic Gases
    D. Fluorocarbons
    E. None: all Inhalants usually elevate pulse rate

21. The landmark State Supreme Court case that first upheld Horizontal Gaze Nystagmus was _____.

    A. State vs. Tomanelli (Connecticut)
    B. State vs. Blake (Arizona)
    C. State vs. Loomis (California)
    D. State vs. Davidson (Maryland)
    E. State vs. Bresson (Ohio)

22. The gap that separates two neurons is called the _____.

    A. vesicle
    B. axon
    C. synapse
    D. dendrite
    E. serotonin

23. Which of the following would not be considered a sympathomimetic drug? (Circle all that are not sympathomimetic)

    A. Cocaine
    B. Methamphetamine
    C. MDMA
    D. LSD
    E. MPPP

24. A suspect is under the combined influence of Heroin and Cocaine, his or her blood pressure is 130/80. This is most likely due to _____.

    A. The "downside" of Cocaine
    B. An Antagonistic Effect
    C. The suspect's tolerance to both drugs
    D. The "downside" of Heroin
    E. The Null Effect

25. The only artery that carries de-oxygenated blood is the _____ Artery.

A. Carotid
B. Brachial
C. Pulmonary
D. Radial
E. Coronal

26. Darvon can best be described as _____.

A. an analog of PCP
B. a Non-Barbiturate
C. an Anti-Depressant
D. a synthetic Narcotic Analgesic
E. a mood elevator

27. Which of the following usually produces dilated pupils?

A. ETOH
B. Percodan
C. Ketamine
D. Desoxyn
E. Demerol

28. What is the artery used in the measurement of blood pressure?

A. Carotid
B. Femoral
C. Radial
D. Brachial
E. Fibular

29. Suppose a suspect exhibits all of the following: BAC of 0.00; no Horizontal or Vertical Gaze Nvstagmus; the eyes do converge; pupils of both eyes are 1.5 mm in room light, 2.0 in near-total darkness, and 1.5 in direct light; pulse rate is 54 on all three measurements; blood pressure is 116/66; noticeable sway on the Romberg Balance Test, with a time estimate of 42 seconds; unable to keep balance for Walk-and-Turn instructions; and unable to perform the One-Leg-Stand Test. In your opinion, this suspect is _____.

A. suffering from a medical complication
B. under the influence of a CNS Depressant
C. under the influence of a Narcotic Analgesic
D. under the combined influence of a Narcotic Analgesic and Cannabis
E. under the combined influence of Cannabis and an Hallucinogen

30. The afferent nerves are also known as the _____ nerves.

A. autotrophic
B. sympathetic
C. motor
D. parasympathetic
E. sensory

31. Someone who is under the influence of Diazepam usually will have _____.

A. normal sized pupils
B. constricted pupils
C. fixed pupils
D. dilated pupils
E. unequal pupils

32. Thorazine is _____.

A. an Anti-Psychotic Tranquilizer
B. a Non-Barbiturate
C. an Anti-Anxiety Tranquilizer
D. a Barbiturate
E. an Anti-Depressant

33. The effects of Cocaine are most quickly felt when the drug is _____.

A. smoked
B. placed on unprotected skin
C. snorted
D. taken orally
E. injected

34. Which of the following is a CNS Depressant that usually causes dilation of the pupils?

A. Methaqualone
B. Phenobarbital
C. Xanax
D. Demerol
E. Flurazepam

35. Ritalin usually produces which of the following?

A. Bradycardia
B. Nystagmus
C. Mydriasis
D. Miosis
E. Ptosis

36. When examining a drug impaired person who is tolerant to the effects of the specific drug, which of the following is the DRE most likely to observe?

A. No signs of impairment
B. Psychological signs of impairment
C. Clinical signs of impairment
D. Clinical and psychophysical signs of impairment
E. Psychophysical signs of impairment

37. An example of a Synthetic Narcotic Analgesic is _____.

A. Psilocybin
B. Methamphetamine
C. Secobarbital
D. Demerol
E. Codeine

38. An example of an Hallucinogen is _____.

A. Demerol
B. Codeine
C. Secobarbital
D. Methamphetamine
E. Psilocybin

39. PCP's observable effects generally last _____hour(s).

A. one
B. two to three
C. four to six
D. seven to eight
E. nine to ten

40. For purposes of the DRE drug evaluatuion, the normal range of adult human blood pressure is considered to be _____.

    A. 120-140 / 70-90
    B. 70-90 / 100-120
    C. 100-120 / 70-90
    D. 70-90 / 120-140
    E. We do not attempt to specify normal ranges in the DEC program.

41. Which of the following must you accomplish before you can be certified as a DRE?

    A. Prepare and submit an approved DRE Curriculum Vitae.
    B. Qualify as an expert witness in a drug-related case.
    C. Personally arrest at least six persons for drug-related offenses.
    D. Correctly identify impairment due to at least five drug categories.
    E. Attend five certification training events.

42. An Inhalant that produces effects that last several hours is _____.

    A. Amyl Nitrite
    B. Nitrous Oxide
    C. Gasoline
    D. Butyl Nitrite
    E. Isobutyl Nitrite

43. The Narcotic Analgesic, sometimes called "drug store Heroin", is _____.

    A. Morphine
    B. Codeine
    C. Numorphan
    D. Dilaudid
    E. Hycodan

44. Which of the following is a metabolite of THC?

    A. Diacetyl THC
    B. Marinol
    C. Carboxy THC
    D. Hashish
    E. Sinsemilla

45. Which of the following is a Volatile Solvent?

A. Nitrous Oxide
B. Hydrogen Sulfide
C. Toluene
D. Amyl Nitrite
E. Ketamine

DRUG RECOGNITION AND CLASSIFICATION TRAINING
FINAL WRITTEN EXAMINATION
TEST ADMINISTRATION

- Secure a quiet room with adequate lighting and sufficient work space for each candidate.

- The exam was not designed to be a speed test, therefore, if a time limit is established for administrative convenience, it should be liberal (e.g., 3 hours) and flexible.

- Distribute one answer sheet and one test booklet to each candidate. Be sure each candidate has a number 2 pencil. Tell candidates not to open test booklets until instructed to do so.

- Read the following instructions to candidates:

"Use a pencil to fill out the answer sheet and to enter your responses to questions."

"Write your name in the space labeled 'Name' on the answer sheet. Use the following order: last name, space, first name, space, middle initial. Fill in the circle underneath each letter that corresponds to that letter." *(Wait for candidates to finish.)*

"Write your social security number in the space marked, 'Social Security Number' on the answer sheet. Put the first digit of the social security number in the first space in the 'Social Security Number' section. Fill in the corresponding circles." *(Wait for candidates to finish.)*

"Write today's date in the space marked 'Date'. Today's date is _____. Fill in the corresponding circles." *(Wait for candidates to finish.)*

"Write _____ in the space marked 'State'. *(Provide candidates with the two letter abbreviation for the state in which the exam is being administered.)* Fill in the corresponding circles." *(Wait for candidates to finish.)*

"Fill in the circle 'A' in the area marked 'Test Form'."

"All answers must be provided on the answer sheet. Marks in the test booklet will not be considered. Circles corresponding to selected answers should be filled in completely. No stray marks should be made on the answer sheet."

"Read all alternatives and then select the one best answer for each question. Read the questions and all alternatives carefully before selecting your answer. There is no penalty for guessing."

"The examination is scheduled to end at _____, however you will be allowed additional time if you need it. When you have completed the examination, return the examination booklet and answer sheet to me."

"Any questions?"

"You may begin working on the examination."

- Monitor candidates carefully.

- When candidates finish, collect <u>all</u> materials (test booklets and answer sheets). The security of the test booklets must be a top priority. At no time, before, during, or after the exam, should candidates have uncontrolled access to exam materials.

- Make a copy of each completed answer sheet before mailing. Keep these copies in a secure location.

- Return original completed answer sheets to your respective DRE State Coordinator. Be sure to inform IACP of any unusual or notable occurrences during exam administration.

DRUG EVALUATION AND CLASSIFICATION TRAINING

FINAL WRITTEN EXAMINATION

FORM A

Instructions to Candidates:

Read each question carefully.

Select the one best alternative for each question.

Record all responses on the answer sheet.

DRE3A

DRUG EVALUATION AND CLASSIFICATION TRAINING

FINAL WRITTEN EXAMINATION

FORM B

Instructions to Candidates:

Read each question carefully.

Select the one best alternative for each question.

Record all responses on the answer sheet.

DRE3B

DRUG EVALUATION AND CLASSIFICATION PROGRAM

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.

ADDICTION

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.

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.

DENDRITE

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.

HALLUCINOGENS

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.

PSYCHOTOGENETIC

Literally, "creating psychosis" or "giving birth to insanity". A drug is considered to be psychotogenetic 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 <u>while</u> 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.

Fifty Minutes

SESSION II

DRUGS IN SOCIETY AND IN VEHICLE OPERATION

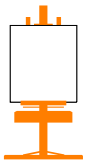
SESSION II DRUGS IN SOCIETY AND IN VEHICLE OPERATION

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

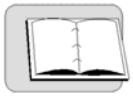
- Define the term "drug" in the context of this course.
- Name the seven major categories of drugs that are relevant to the Drug Evaluation and Classification program.
- State in approximate, quantitative terms the incidence of drug use among various segments of the American public.
- State in approximate, 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.

Content Segments	Learning Activities
A. Definition and Categories of Drugs	o Instructor Led Presentations
B. Drugs and Driving	o Reading Assignments

Aids	Lesson Plan	Instructor Notes
 II-1 (Title)	**DRUGS IN SOCIETY AND IN VEHICLE OPERATION**	Total Lesson Time: Approximately 50 Minutes Display Session Title
 II-2A&B (Objectives)		Briefly review the objectives, content and activities of this session.
 35 Minutes	**A. Definition and Categories of Drugs**	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.
	1. What do we mean by the word "drug"?	Pose this question to the students.
	a. Medicines? Are all drugs medicines? Are all medicines drugs?	Solicit several responses.
	b. Narcotics? Are all drugs narcotics?	
 II-3 (Definition of "Drug")	c. 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."	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.,

Aids	Lesson Plan	Instructor Notes
		antibiotics, Novocain, vitamins, etc. It also includes some substances that aren't normally thought of as "drugs", such as model airplane glue, insecticides, etc.
	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 <u>how</u> they impair driving ability and in terms of the <u>kinds</u> 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.	
		<u>Ask</u> students: "What are the seven categories of drugs?" <u>Write</u> the names of the categories on the dry erase board or flip-chart as they are mentioned by the students.

Aids	Lesson Plan	Instructor Notes
 II-4 (Depressants)	4. Central Nervous System Depressants.	
	a. The category of CNS Depressants includes some of the most commonly abused drugs.	<u>Point out</u> that tens of millions of prescriptions for such drugs are written in this country each year.
	o Alcohol remains the most familiar drug. In 2002, 51 percent of persons aged 12 or older were current drinkers.	Source: The USDUH Report. (December 12, 2003).
	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.	i.e. depress the brain's ability to sense pain.
	o in very high doses, induce coma and death.	

Aids	Lesson Plan	Instructor Notes
 II-5 (Stimulants)	5. Central Nervous System Stimulants	
	a. CNS Stimulants constitute another widely abused category of drugs.	
	o There appear to be more than two (2) million Cocaine users in the U.S.	Source: NSDUH Survey, Dec. 2003
	o 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.
	o In 2003, 20.8 million Americans aged 12 or older admitted using prescription-type Stimulants non-medically at least once in their lifetime.	Source: Februarv 2005 National Survey on Drug Use and Health.
	o 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.	

Aids	Lesson Plan	Instructor Notes
	o cause the user to become hyperactive, extremely talkative.	
	o speech may become rapid and repetitive.	
	o heart rate increases.	
	o blood pressure increases.	
	o body temperature rises, user may become excessively sweaty.	
	o induce emotional excitement, restlessness, irritability.	
	o can induce cardiac arrhythmia (abnormal beating of the heart), cardiac seizures and death.	Remind students of well-known athletes and others who have died because of Cocaine abuse.
II-6 (Hallucin-ogens)	6. Hallucinogens	
	a. Hallucinogens are also widely abused.	Point out that LSD and Peyote are only two examples of Hallucinogens. There are many other Hallucinogens.
	b. In recent years, significant increases in the abuse of both LSD and "Ecstasy" (MDMA) have been reported.	

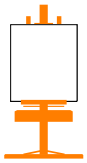
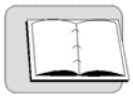
Aids	Lesson Plan	Instructor Notes
	c. Hallucinogens create perceptions that differ from reality.	
	d. These perceptions are often very distorted, so that the user sees, hears and smells things in a way quite different from how they really look, sound and smell.	
	e. Hallucinogens cause the nervous system to send strange or false signals to the brain.	Clarification: Hallucinogens confuse the Central Nervous System (as well as speeding it up, like CNS Stimulants).
	o Produce sights, sounds, odors, feelings and tastes that aren't real.	
	o Induce a temporary condition very much like psychosis or insanity.	
	o Can create a "mixing" of sensory modalities, so that the user "hears colors", "sees music".	Point out that this mixing of the senses is called Synesthesia. Point out that, with all of these false, and distorted perceptions, a person under the influence of hallucinogens would be a very unsafe driver.
 II-7 (Dissoc. Anesthetics)	7. Dissociative Anesthetics	Point out that this category was changed from PCP to Dissociative Anesthetics in 2005.
	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 people under the influence of Dissociate Anesthetics may exhibit a combination of the signs associated with Hallucinogens, CNS Stimulants and Depressants.

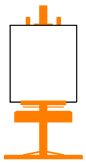
Aids	Lesson Plan	Instructor Notes
	symptomology it presents, it is in a separate category.	Phencyclidine is a short form of the chemical name Phenyl Cyclohexyl Piperidine, from which we get the abbreviation "PCP".
	b. PCP is a synthetic drug, i.e. it does not occur naturally but must be produced in a laboratory-like setting.	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.
	c. PCP has some effects that resemble the effects of other categories.	The Dissociative Anesthetic category consists of PCP and its various analogs.
	d. PCP is similar to CNS Depressants in that it depresses brain wave activity. o slows down thought o slows reaction time o 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. o heart rate increases o blood pressure increases o adrenalin production increases o body temperature rises o muscles become rigid	

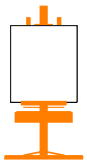
Aids	Lesson Plan	Instructor Notes
	f. And PCP is similar to Hallucinogens in that it distorts or "scrambles" signals received by the brain. o sight, hearing, taste, smell and touch may all be distorted o user's perception of time and space may be distorted o user may become paranoid, feel isolated and depressed o user may develop a strong fear of and preoccupation with death o user may become unpredictably violent	
	g. PCP is also a very powerful pain killer, or anesthetic.	Point out that the reason PCP is a Dissociative Anesthetic is because it "separates" the user from any sensation of pain without making him or her unconscious.
	h. Analogs of PCP include: Ketamine, Ketalar and Ketajet.	
 II-8 (Narcotics)	8. Narcotic Analgesics a. There are two subcategories of Narcotic Analgesics.	

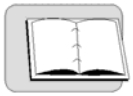
Aids	Lesson Plan	Instructor Notes
	o Opiates are derivatives of Opium.	Point out that Morphine and Codeine are examples of Opiates.
	o Synthetics are produced chemically in the laboratory. The synthetics are not derived in any way from Opium, but produce similar effects.	Point out that Methadone and Numorphan are examples of Synthetic Narcotics.
	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.	Point out that this condition is often called being "on the nod".
	o they often are sufficiently alert to respond to questions effectively.	

Aids	Lesson Plan	Instructor Notes
	g. Higher doses of Narcotic Analgesics can induce coma, respiratory failure and death.	
II-9 (Inhalants)	9. Inhalants a. Inhalants are the fumes of certain substances. Inhalant abuse is on the rise. b. These substances are found in many common products. o gasoline o oil-based paints o glue o aerosol cans o varnish remover o cleaning fluids o etc. c. Different Inhalants produce different effects. o many produce effects similar to those of CNS Depressants. o a few produce Stimulant-like effects. o some produce Hallucinogenic effects. d. The Inhalant abuser's attitude and demeanor can vary from inattentive, stuporous and passive to irritable, violent and dangerous. e. The abuser's speech will often be slow, thick and slurred.	

Aids	Lesson Plan	Instructor Notes
	10. Cannabis	
II-10 (Cannabis)		
	a. The category "Cannabis" includes the various forms and products of the <u>Cannabis Sativa</u> plant and other species of Cannabis plants.	Write "Cannabis Sativa" on the dry erase board or flip chart.
	b. The primary active ingredient in Cannabis products is the substance known as "Delta-9 Tetra-hydrocannabinol", or "THC".	Write "Δ-9 THC" on the dry erase board or flip-chart.
	c. Apart from alcohol, Marijuana is the most commonly abused drug in this country.	
	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.	Source: National Household Drug Use and Health Survey, 2002
	e. Cannabis appears to interfere with the attention process. Drivers under the influence of Marijuana often do not pay attention to their driving.	Point out that divided attention Standardized Field Sobriety Tests usually disclose some of the best evidence of Cannabis impairment.
	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.	

Aids	Lesson Plan	Instructor Notes
	11. Drug Combinations	
II-11 (Drug Combina-tions)		
	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"	<u>Note</u>: "poly" is the Greek prefix for "many".
	c. Some very common examples of polydrug use include:	<u>Write</u> "polydrug use" on the dry erase board or flip-chart.
	o Alcohol with virtually any other drug.	
	o Marijuana and PCP	<u>Point out</u> that a common way to ingest PCP is to sprinkle it on a Marijuana "joint" and smoke it.
	o Cocaine and Heroin	Sometimes called a "speedball".
	o Heroin and Amphetamine	Sometimes called a," poor man's speedball".
	o Heroin and PCP	Sometimes called a "fireball".
	o "Crack" Cocaine and PCP	This is sometimes called a "space base".
	o "Crack" Cocaine and Marijuana	Sometimes called a "primo".
	o "Crack" and Methamphetamine	Sometimes called "croak".

Aids	Lesson Plan	Instructor Notes
	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.	
 15 Minutes	**B. Incidence and Characteristics of Drug Use in America**	
 II-12 (Drug Use)	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

Aids	Lesson Plan	Instructor Notes
	5. In 2004, there were an estimated 166,000 users of Heroin. 6. In 2004, 1.9 million people aged 12 or older used OxyContin non-medically.	Source: Results From the 2004 National Survey on Drug Use and Health: National Findings
II-13 (Drugged Driving Facts)	**C. Incidence of Drug Impaired Driving** The exact incidence of drugged driving is not actually known. However, the following facts are known about this highway safety problem:	
	a. Fact: In 2002, about 11 million illicit drug users admitted driving after using an illicit drug.	National Survey on Drug Use and Health (NSDUH), September 2003.
 II-14 (CA Male Drivers)	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.	Source: Compton, R. and Anderson, T.. The Incidence of Driving Under the Influence of Drugs: 1985. National Highway Traffic Safety Administration, 1985.
 II-15 (Univ. TN Study)	c. <u>Fact</u>: University of Tennessee (1988) found 40% of crash injured drivers had drugs other than alcohol in them.	

Aids	Lesson Plan	Instructor Notes
	d. Fact: A study completed in 2000, of 880 crash-injured drivers in Rochester, New York, found that 33% had used drugs.	Research Accident Investigation Team, Department of Community and Preventative Medicine, University of Rochester
	e. Fact: 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.	Source: NHTSA; 1993 Traffic Tech
	3. The facts are unmistakable: a. Drug use is common among many Americans. b. So is drug impaired driving.	NOTE: Consult national and local resources for updated data on drugs and driving. Solicit students' comments and questions about drugs in society and vehicle operation

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

II-1

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

Drug Evaluation & Classification Training II-2A

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.

Drug Evaluation & Classification Training II-2B

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.

Drug Evaluation & Classification Training II-3

Central Nervous System Depressants

Examples:

- Alcohol
- Barbiturates
- Anti-Depressants
- Anti-Anxiety Tranquilizers

Drug Evaluation & Classification Training II-4

Central Nervous System Stimulants

Examples:

- Amphetamine
- Cocaine
- Methamphetamine
- Ritalin

Drug Evaluation & Classification Training II-5

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 non-medically

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

Drug Evaluation & Classification Training II-12

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)

Drug Evaluation & Classification Training II-13

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

Drug Evaluation & Classification Training II-14

University of Tennessee Study

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

Drug Evaluation & Classification Training II-15

QUESTIONS?

Drug Evaluation & Classification Training

Fifty Minutes

SESSION III

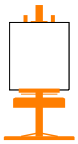
DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM

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.

Content Segments	Learning Activities
A. Origin and Evolution of Drug Evaluation & Classification Program	o Instructor Led Presentations
B. Evidence of Effectiveness	o Reading Assignments
C. Case Law Review	

Aids	Lesson Plan	Instructor Notes
 III-1 (Title)	**DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM**	Total lesson time: Approximately 50 Minutes Briefly review the content, objectives and activities of this session.
		Display Session Title Session title on wall chart.
 III-2A&B (Objectives)		
 15 Minutes	**A. Origin and Evolution of the Drug Evaluation and Classification (DEC) Program**	
	1. The DEC program was developed by personnel of the Los Angeles Police Department.	<u>Write</u>: "LAPD" on dry erase board or flip-chart.
	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)	Sergeant Studdard retired from the LAPD in June, 1990.
	o encountered many impaired drivers whose BACs were zero or very low.	

Aids	Lesson Plan	Instructor Notes
	o occasionally succeeded in having physicians examine some of these low BAC subjects, resulting in diagnosis of drug influence.	Note: examining physicians subsequently would be subpoenaed to testify in contested cases.
	o for various reasons, physicians were often reluctant or unwilling to conduct these examinations and offer opinions.	Some reasons why doctors may be reluctant: (1) They typically receive little training in the recognition of specific signs of drug impairment, particularly at street level doses. (2) They may not see the subject until hours after the drugs were used, by which time the signs and symptoms often have changed.
	o as a result, some drivers whom Studdard and other officers were certain were impaired were not prosecuted or convicted for DWI.	
	o Studdard concluded that it was essential to develop diagnostic procedures that officers could use when confronted with persons suspected of drug impairment.	
	b. Len Leeds (A Narcotics Officer)	Deceased in 1995.
	o was approached by Studdard and asked to	

Aids	Lesson Plan	Instructor Notes
	collaborate in the development of a program. o initiated some independent research by consulting with physicians, enrolling in relevant classes, studying text books, technical articles, etc. o secured management level support within the department to continue research and program development. c. As time went on, many other key persons both within and outside LAPD contributed to the development and refinement of the program.	
	4. Around 1979, the program was officially recognized by LAPD.	Note: The LAPD program was referred to as the Drug Recognition Expert (DRE) program
 III-3 (Three-Step Process)	5. The DEC program evolved into what is essentially a three-step process.	
	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.	<u>Clarification</u>: 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.

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

Aids	Lesson Plan	Instructor Notes
	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.

Aids	Lesson Plan	Instructor Notes
	e. 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.	Solicit students' questions and comments concerning the origin, evolution and need for the Drug Evaluation and Classification program.
20 Minutes	**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 <u>alcohol</u> 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.	

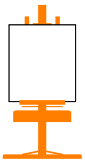
Aids	Lesson Plan	Instructor Notes
 III-4 (Two Stages of Validation)	2. NHTSA assisted LAPD in a two-phased validation study.	
	a. Laboratory validation, using volunteers who ingested selected drugs.	Note: The Johns Hopkins validation was conducted in 1984.
	b. Field validation, using persons actually arrested in Los Angeles on suspicion of drug influence.	Note: The LAPD Field validation was conducted in 1985.
	3. The Laboratory Validation took place at Johns Hopkins University in Maryland.	
	a. The drug examiners were senior DREs from LAPD.	The LAPD participants: Dick Studdard Jerry Powell Pat Russell Doug Laird
	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: o Secobarbital (CNS Depressant) o Valium (i.e. Diazepam - CNS Depressant) o Desoxyn (Methamphetamine Sulfate - CNS Stimulant)	

Aids	Lesson Plan	Instructor Notes
	e. The "cigarette" contained either Marijuana or no drug (placebo).	
	f. Neither the volunteers nor the LAPD officers knew what the volunteers had taken.	Note: this condition is known as a "double blind" experiment. The people being tested and the people doing the testing are kept uninformed of the test condition.
	g. Two different dose levels of Marijuana, Diazepam and Methamphetamine Sulfate were used.	Clarification: some of the Diazepam and Methamphetamine Sulfate pills were "weak", some were "strong". Similarly, some of the Marijuana cigarettes were "weak", some "strong". All of the Secobarbital pills were "strong". 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. o they classified as "impaired" 98.7% of the subjects who received Secobarbital or strong doses of Marijuana, Diazepam or Methamphetamine Sulfate. o 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. o only 17.5% of the subjects who received the weak dose of Meth-amphetamine Sulfate were classified as "impaired".	• Marijuana: weak - 12 puffs of 1.3% THC cigarettes strong - 12 puffs of 2.8% THC cigarettes

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

Aids	Lesson Plan	Instructor Notes
		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.
	c. Twenty-eight different DREs from LAPD participated in the examinations of these 173 subjects.	
	6. Results of the Field Study.	
III-6A (LA 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.	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.
	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.	

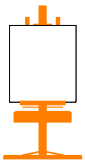
Aids	Lesson Plan	Instructor Notes
	e. This means that 125 of the 173 subjects had ingested two or more drugs other than alcohol: That is more than 72% of the subjects.	Emphasize: Polydrug use is very common. Write on dry erase board "72% two or more drugs other than alcohol".
	f. PCP was the drug most often found among these 173 subjects: more than half of them (56%) had used PCP.	
 III-6B (LA Study - blood tests)	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 "predicted" by the DREs.	
 III-6C (Confirma-tion Rates)	8. The confirmation rates for specific categories:	
	a. PCP: blood tests con-firmed 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.
	b. Narcotic Analgesics: blood tests confirmed 85% of the DREs' predictions.	
	c. Cannabis: blood tests confirmed 78% of DREs' predictions.	

Aids	Lesson Plan	Instructor Notes
	d. CNS Depressants: blood tests confirmed 50% of DREs' opinions.	POINT OUT that there are literally hundreds of different CNS Depressants, many of which may not have been identifiable by the independent laboratory.
	e. CNS Stimulants: blood tests confirmed 33% of DREs' opinions.	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.
	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.
15 Minutes	**C. Case Law Review**	
III-7A (Case Law Review)	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.	

Aids	Lesson Plan	Instructor Notes
	b. The Frve standard is the traditional test for admissibility of "new" scientific evidence.	
	c. The Frye standard: "is the procedure or principle espoused accepted by the relevant scientific community?"	NOTE: Frye standard was set by the US Supreme Court in 1923. Print "Frye Standard" on the dry erase board or flip-chart.
	d. In Daubert, courts serve as a gatekeeper for all scientific evidence.	NOTE: Daubert standard requires a showing of reliability before scientific evidence can be admitted.
	o Courts assess evidence by considering four factors: 1. Opinions are testable 2. Methods/principles have been subject to peer review 3. Known error rate can be identified 4. Opinions rest on methodology that is generally accepted within the relevant scientific/technical community	Print "Daubert" on the dry erase board or flip-chart
	e. An Arizona court (Tucson Municipal Court) ruled that the Frye Standard was met. However, upon appeal, The Arizona State Supreme Court ruled that the Frye Standard did not apply to the DEC Program.	State of Arizona v. Dayton Johnson and Samuel Rodriquez, et al, NOS 90056865 and 90035883, (1990).

Aids	Lesson Plan	Instructor Notes
 III-7A (Klawitter)	f. A Minnesota Court (City of Minneapolis) ruled that outside of nystagmus, the DEC Program is not subject to the Frye Standard.	State of Minnesota, City of Minneapolis v. Larry Michael Klawitter, 518 N.W.2d 577, (1993).
 III-7A (Hernandez)	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.	State of Colorado v. Daniel Hernandez, 92M 181, (1992).
 III-7B (Baity)	h. The Washington Supreme Court determined that the Frye Standard applies to the protocol because the process has "scientific elements".	Washington v. Baity 991 P. 2d, 1151, 140 Wn. 2d 1 (2000)
 III-7B (Aleman)	i. A New Mexico Court ruled that the DRE protocols are the application of traditional techniques	New Mexico v. Mariam Aleman Dona Ana County, 3rd District (2003)
 III-7B (Cubrich)	j. A Nebraska Court ruled that the DRE's opinion was correct and that the DRE protocol is admissible.	State v. Cubrich Case No. CR03-8203 Sarpy County Court (2004) NOTE: In this case, the court used the Daubert standard.
	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.	

Aids	Lesson Plan	Instructor Notes
	2. The DEC program is gaining acceptance in many courts.	Expert testimony regarding drug influence has long been accepted by numerous courts.
	3. One key element of DEC -- namely, Horizontal Gaze Nystagmus -- has been recognized as meeting the Frye standard by several State Supreme 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.
	a. First to do so was Arizona, in the case known as State vs. Blake.	In fact, testimony based on DRE investigation have been accepted by courts for years.
III-8 (Blake)	b. Many more State Supreme Courts are expected to rule favorably on HGN in the near future.	Print "State vs. Blake" on the dry erase board or flip-chart. Point out that additional court rulings on HGN are summarized in the Student's Manual. 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. If there are significant cases concerning DEC or HGN from the students' State, review them at this time.
	4. Summary of HGN Case Law.	Solicit students' questions and comments about case law.
	a. The prevailing trend is for courts is to admit HGN as evidence of impairment, with the proper scientific foundation.	

Aids	Lesson Plan	Instructor Notes
	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

III-1

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

Drug Evaluation & Classification Training III-2A

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

Drug Evaluation & Classification Training III-2B

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

Drug Evaluation & Classification Training III-3

Two Stages of Validation

Stage One: Laboratory Validation Study

Johns Hopkins University

Stage Two: Field Validation Study

Los Angeles

Drug Evaluation & Classification Training III-4

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

Drug Evaluation & Classification Training III-5

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?

Drug Evaluation & Classification Training

ATTACHMENT A

"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
State of Arizona v. Dayton Johnson and Samuel Rodriguez, et al. 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 in Supreme Court, C6-93-2092, filed June 30, 1994. (Unpublished Opinion)
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).

1994
11th Judicial Circuit in and for Dade County, Florida
Case No. 256998,9-I (Unpublished Opinion)
State of Florida v. Frederick Williams
Judge Maxine Cohen Lando
Original filed January 19, 1995

"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.

2000
Case No. 66876-1
State of Washington vs. Michael Baity
Judge J. Talmadge, WA Supreme Court
Original filed 2000

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 Limme* 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.

To this end the court applied the standards set forth in Schafersman v. Agland Coop, 262 Neb. 215, 631 N.W. 2d 862 (2001), having adopted Daubert v. Merrel Dow Pharmaceuticals, Inc., 509 U.S.579 (1993), as the controlling authority in determining the admissibility of expert opinion testimony.

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.

ATTACHMENT B

American Prosecutors Research Institute
National Traffic Law Center

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

Alaska

I. Evidentiary Admissibility

HGN is a scientific test. It is generally accepted within the relevant scientific community.
Ballard v. Alaska, 955 P.2d 931, 939 (Alaska Ct. App. 1998).

II. Police Officer Testimony Needed to Admit HGN Test Result

A police officer may testify to the results of HGN testing as long as the government establishes a foundation that the officer has been adequately trained in the test.
Ballard, 955 P.2d at 941.

III. Purpose and Limits of HGN

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

Arizona

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

"The proper foundation for [admitting HGN test results] . . . includes a description of the officer's training, education, and experience in administering the test and showing that proper procedures were followed."
Arizona ex. rel. Hamilton v. City Court of Mesa, 799 P.2d 855, 860 (Ariz. 1990).
See also Arizona ex. Rel. McDougall v. Ricke, 778 P.2d 1358, 1361 (Ariz. Ct. App. 1989).

III. Purpose and Limits of HGN

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

"Where a chemical analysis has been conducted, the parties may introduce HGN test results in the form of estimates of BAC over .10% to challenge or corroborate that chemical analysis."
Ricke, 778 P.2d at 1361.

When no chemical analysis is conducted, the use of HGN test results "is to be limited to showing a symptom or clue of impairment."
Hamilton, 799 P.2d at 858.

Arkansas

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

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

California

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

Police officer can give opinion, based on HGN and other test results, that defendant was intoxicated. Furthermore, police officer must testify as to the administration and result of the test.
Joehnk, 35 Cal. App. 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

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

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

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

Delaware

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

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

III. Purpose and Limits of HGN

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

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

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

District of Columbia

I. Evidentiary Admissibility

The Court does not address this issue.

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

The Court has not yet addressed this issue.

Florida

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

"We take judicial notice that HGN test results are generally accepted as reliable and thus are admissible into evidence once a proper foundation has been laid that the test was correctly administered by a qualified DRE [Drug Recognition Expert]."
Williams, 710 So. 2d at 32.

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

No evidence presented as to the police officer's qualifications nor administration of the HGN test in this case.
Meador, 674 So. 2d at 835.

III. Purpose and Limits of HGN

The HGN test results alone, in the absence of a chemical analysis of blood, breath, or urine, are inadmissible to trigger the presumption provided by the DUI statute, and may not be used to establish a BAC of .08 percent or more.
Williams, 710 So. 2d at 36.

Georgia

I. Evidentiary Admissibility

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

HGN testing is judicially noticed as a scientifically reliable test and therefore expert testimony is no longer required before the test results can be admitted.
Hawkins v. Georgia, 476 S.E.2d 803, 808-09 (Ga. Ct. App. 1996).

II. Police Officer Testimony Needed to Admit HGN Test Result

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

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

III. Purpose and Limits of HGN

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

Hawaii

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

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

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

Illinois

I. Evidentiary Admissibility

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

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

"A proper foundation should consist of describing the officer's education and experience in administering the test and showing that the procedure was properly administered."
Buening, 592 N.E.2d at 1227.

III. Purpose and Limits of HGN

HGN test results may be used to establish probable cause in a criminal hearing.
People v. Furness, 526 N.E.2d 947, 949 (Ill. App. Ct. 1988).

HGN test results admissible to show probable cause in a civil hearing.
People v. Hood, 638 N.E.2d 264, 274 (Ill. App. Ct. 1994).

HGN test results may be used "to prove that the defendant is under the influence of alcohol."
Buening, 592 N.E.2d at 1228.

Indiana

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The proper foundation for admitting HGN evidence should consist of describing the officer's education and experience in administering the test and showing that the procedure was properly administered. *Cooper*, 751 N.E.2d at 903.

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

III. Purpose and Limits of HGN

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

Iowa

I. Evidentiary Admissibility

HGN admissible as a field test under the Iowa Rules of Evidence. "[T]estimony by a properly trained police officer with respect to the administration and results of the horizontal gaze nystagmus test are admissible without need for further scientific evidence."
State v. Murphy, 451 N.W.2d 154, 158 (Iowa 1990).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer may testify about HGN test results under Rule 702 if the officer is properly trained to administer the test and objectively records the results.
Murphy, 451 N.W.2d at 158.

III. Purpose and Limits of HGN

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

Kansas

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

Kentucky

I. Evidentiary Admissibility

HGN test results admitted due to defendant's failure to object.
Commonwealth v. Rhodes, 949 S.W.2d 621, 623 (Ky. Ct. App. 1996).

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

Louisiana

I. Evidentiary Admissibility

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

State v. Breitung, 623 So. 2d 23, 25-6 (La. Ct. App. 1993).
State v. Regan, 601 So. 2d 5, 8 (La. Ct. App. 1992).
State v. Armstrong, 561 So. 2d 883, 887 (La. Ct. App. 1990).

The standard of admissibility for scientific evidence is currently the Louisiana Rules of Evidence.
State v. Foret, 628 So. 2d 1116 (La. 1993).

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

The HGN test may be used by the officer "to determine whether or not he [needs] to 'go any further' and proceed with other field tests."
Breitung, 623 So. 2d at 25.

HGN test results may be admitted as evidence of intoxication.
Armstrong, 561 So. 2d at 887.

Maine

I. Evidentiary Admissibility

Because the HGN test relies on greater scientific principles than other field sobriety tests, the reliability of the test must first be established. Either *Daubert* or *Frye* standard must be met.
State v. Taylor, 694 A.2d 907, 912 (Me. 1997).

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

Taylor, 694 A.2d at 910.

II. Police Officer Testimony Needed to Admit HGN Test Result

"A proper foundation shall consist of evidence that the officer or administrator of the HGN test is trained in the procedure and the [HGN] test was properly administered."
Taylor, 694 A.2d at 912.

III. Purpose and Limits of HGN

HGN test results may only be used as "evidence of probable cause to arrest without a warrant or as circumstantial evidence of intoxication. The HGN test may not be used by an officer to quantify a particular blood alcohol level in an individual case."
Taylor, 694 A.2d at 912.

Maryland

I. Evidentiary Admissibility

HGN is scientific and must satisfy the *Frye*/*Reed* standard of admissibility. The Court of Appeals took judicial notice of HGN's reliability and its acceptance in the relevant scientific communities.
Schultz v. State, 664 A.2d 60, 74 (Md. Ct. Spec. App. 1995).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer must be properly trained or certified to administer the HGN test. [NOTE: In *Schultz*, the police officer failed to articulate the training he received in HGN testing and the evidence was excluded.]
Schultz, 664 A.2d at 77.

III. Purpose and Limits of HGN

HGN testing may not be used to establish a specific blood alcohol level.
Wilson v. State, 723 A.2d 494 (Md. Ct. Spec. App. 1999).

Massachusetts

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

The Court did not address this issue.

Michigan

I. Evidentiary Admissibility

Court found that HGN test is scientific evidence and is admissible under the *Frye* standard of admissibility.
State v. Berger, 551 N.W.2d 421, 424 (Mich. Ct. App. 1996).

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

HGN test results are admissible to indicate the presence of alcohol.
Berger, 551 N.W.2d at 424 n.1.

Minnesota

I. Evidentiary Admissibility

Court found that HGN meets the *Frye* standard of admissibility.
State v. Klawitter, 518 N.W.2d 577, 585 (Minn. 1994).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officers must testify about their training in and experience with the HGN test.
See generally Klawitter, 518 N.W.2d at 585-86.

III. Purpose and Limits of HGN

HGN admissible as evidence of impairment as part of a Drug Evaluation Examination in the prosecution of a person charged with driving while under the influence of drugs.
See generally Klawitter, 518 N.W.2d at 585.

Mississippi

I. Evidentiary Admissibility

HGN is a scientific test. However, it is not generally accepted within the relevant scientific community and is inadmissible at trial in the State of Mississippi.
Young v. City of Brookhaven, 693 So.2d 1355, 1360-61 (Miss. 1997).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officers cannot testify about the correlation between the HGN test and precise blood alcohol content.
Young, 693 So.2d at 1361.

III. Purpose and Limits of HGN

HGN test results are admissible only to prove probable cause to arrest.
Young, 693 So.2d at 1361.

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

Missouri

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer must be adequately trained and able to properly administer the test.
Hill, 865 S.W.2d at 704.

See also, *Duffy v. Director of Revenue*, 966 S.W. 2d 372 (Mo. Ct. App. 1998). HGN not admitted at trial because the administering officer was not aware of 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

HGN test results admissible as evidence of impairment.
State v. Clark, 762 P.2d 853, 856 (Mont. 1988).

Nebraska

I. Evidentiary Admissibility

HGN meets the *Frye* standard for acceptance in the relevant scientific communities, and when the test is given in conjunction with other field sobriety tests, the results are admissible for the limited purpose of establishing impairment that may be caused by alcohol.
***State** v. Baue*, 607 N.W.2d 191 (Neb. 2000)

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

"Testimony concerning **HGN** is admissible on the issue of impairment, provided that the prosecution claims no greater reliability or weight for the **HGN** evidence than it does for evidence of the defendant's performance on any of the other standard field sobriety tests, and provided further that the prosecution makes no attempt to correlate the **HGN** test result with any particular blood-alcohol level, range of blood-alcohol levels, or level of impairment."
State *v. Baue*, 607 N.W.2d 191 (Neb. 2000) (quoting *Ballard v. State*, 955 P.2d 931, 940 (Alaska App. 1998))

New Hampshire

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result
"Since we have already determined that the scientific principles underlying the HGN test are reliable, a properly trained and qualified police officer may introduce the HGN test results at trial." *State v. Dahoo,* 2002 N.H. LEXIS 179.

III. Purpose and Limits of HGN

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

New Jersey

I. Evidentiary Admissibility

In New Jersey, the party offering the results of a scientific procedure into evidence must comply with Frye and show that the procedure is generally accepted in the relevant scientific communities. A party may prove this general acceptance via "(1) testimony of knowledgeable

experts[,] (2) authoritative scientific literature[, or] (3) [p]ersuasive judicial decision." Based on the testimony of Dr. Marcelline Burns and Dr. Jack Richman, the Court found the HGN test to be generally accepted and the results thus admissible. The Court also noted the "significant number" of jurisdictions that have accepted the HGN test as admissible scientific evidence. ***State v. Maida,*** 2000 N.J. Super. LEXIS 276 (N.J. Super. Ct. Law Div. 2000).

***But See**, *State v. Doriguzzi*, 760 A.2d 336 (N.J. Super. 2000), which held that HGN is scientific evidence that must meet Frye Standard. However, in each trial, sufficient foundation evidence must be laid by expert testimony to assure defendants that a conviction for DUI, when based in part on HGN testing, is grounded in reliable scientific data. In this case, the appellate court reversed defendant's conviction because at trial no such foundation was presented. The court found that because HGN testing has not achieved general acceptance in the community, it is not a matter of which a court can take judicial notice.

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court found the HGN test admissible "as a reliable scientific indicator of likely intoxication."

New Mexico

I. Evidentiary Admissibility

HGN is a scientific test. New Mexico follows the *Daubert* standard, which requires a showing of reliability before scientific evidence can be admitted. The court held that a scientific expert must testify to the underlying scientific reliability of HGN and that a police officer cannot qualify as a scientific expert. Because the State failed to present sufficient evidence regarding the HGN test's reliability, the court remanded the case stating it would be appropriate for the trial court, on remand, to make the initial determination of whether HGN testing satisfies *Daubert*. In addition, the court found HGN to be "beyond common and general knowledge" and declined to take judicial notice of HGN reliability.
State v. Torres, 976 P.2d 20 (N.M. 1999).

State v. Lasworth, 42 P.3d 844 (Ct. App. N.M. 2001), cert. denied (2002). Results of HGN test were inadmissible at trial (State v. Torres, 976 P.2d 20 (N.M. 1999). The State needed to prove that HGN was both valid and reliable.

State called Dr. Marceline Burns as a witness (reliability) but did not call an expert in a discipline such as biology or medicine to explain how the amount of alcohol a person consumes correlates with HGN (validity).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officers can qualify as non-scientific experts based on their training and experience. Non-scientific experts may testify about the administration of the test and specific results of the test provided another scientific expert first establishes the reliability of the scientific principles underlying the test. In order to establish the "technical or specialized knowledge" required to qualify as an expert in the administration of the HGN test, "there must be a showing: (1) that the expert has the ability and training to administer the HGN test properly, and (2) that the expert did, in fact, administer the HGN test properly at the time and upon the person in question." *State v. Torres*, 976 P.2d 20 (N.M. 1999).

State v. Lasworth, 42 P.3d 844 (Ct. App. N.M. 2001), cert. denied (2002). Court believed that state had to show that presence of HGN (BAC above .08) correlates with diminishment of driver's mental or physical driving skills (which it failed to do) & a correlation between presence of HGN and BAC above or below .08 (which it did through testimony of Dr. Burns). Court did not preclude use of results of HGN to establish probable cause for arrest or to establish grounds for administering a chemical BAC test.

III. Purpose and Limits of HGN

The Court did not address this issue.

New York

I. Evidentiary Admissibility

Prue holds that HGN test results are admissible under *Frye* standard of "general acceptance." *People v. Prue*, Indictment No. I-5-2001, Franklin County Court (November 2001).

In *Gallup*, the court said that it was only necessary to conduct a foundational inquiry into the techniques and the tester's qualifications for admissibility. *People v. Gallup*, Memorandum and order #13094, 302 A.D.2d 681 (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
HGN test results are evidence of impairment. *Helms*, 504 S.E.2d 293 (N.C. 1998).

North Dakota

I. Evidentiary Admissibility

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

HGN test is objective in nature and does not require an expert interpretation.
State v. Nagel, 506 N.E.2d 285, 286 (Ohio Ct. App. 1986).

Court determined that HGN was a reliable indicator of intoxication without specifically ruling on whether HGN meets *Frye* or some other standard of admissibility.
State v. Bresson, 554 N.E.2d 1330, 1334 (Ohio 1990).

Court held that SFSTs, including HGN, must be administered in *strict compliance* with NHTSA's directives in order for the test results to be admissible. *State v. Homan*, 732 N.E.2d 952 (Ohio 2000).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer need only testify to training in HGN procedure, knowledge of the test and ability to interpret results. *Bresson*, 554 N.E.2d at 1336.

III. Purpose and Limits of HGN

HGN can be used to establish probable cause to arrest and as substantive evidence of a defendant's
guilt or innocence in a trial for DUI, but not to determine defendant's BAC.
Bresson, 554 N.E.2d at 1336.

Oklahoma

I. Evidentiary Admissibility

HGN test results excluded because state failed to lay adequate foundation regarding HGN's scientific admissibility under the *Frye* standard of admissibility. Police officer's testimony alone was insufficient.
Yell v. State, 856 P.2d 996, 996-97 (Okla. Crim. App. 1993).

The *Daubert* rationale replaces the *Frye* standard as the admissibility standard for scientific evidence.
Taylor v. State, 889 P.2d 319, 328-29 (Okla. Crim. App. 1995).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer testified to training on how to administer HGN test and how the test was administered in this case. Officer also testified as to his training in analyzing HGN test results.
Yell, 856 P.2d at 997.

III. Purpose and Limits of HGN

If HGN testing was found to satisfy the *Frye* standard of admissibility, HGN test results would be considered in the same manner as other field sobriety test results. HGN test results are inadmissible as scientific evidence creating a presumption of intoxication.
Yell, 856 P.2d at 997.

Oregon

I. Evidentiary Admissibility

HGN test results are admissible under the Oregon Rules of Evidence. HGN test results are scientific in nature, are relevant in a DUI trial, and are not unfairly prejudicial to the defendant.
State v. O'Key, 899 P.2d 663, 687 (Or. 1995).

II. Police Officer Testimony Needed to Admit HGN Test Result

"Admissibility is subject to a foundational showing that the officer who administered the test was properly qualified, that the test was administered properly, and that the test results were recorded accurately."
O'Key, 899 P.2d at 670.

III. Purpose and Limits of HGN

"… HGN test results are admissible to establish that a person was under the influence of intoxicating liquor, but is not admissible…to establish a person's BAC…." *O'Key*, 899 P.2d at 689-90.

Officer may not testify that, based on HGN test results, the defendant's BAC was over .10.
State v. Fisken, 909 P.2d 206, 207 (Or. Ct. App. 1996).

Pennsylvania

I. Evidentiary Admissibility

The state laid an inadequate foundation for the admissibility of HGN under the *Frye*/*Topa* standard.
Commonwealth v. Moore, 635 A.2d 625, 629 (Pa. Super. Ct. 1993).
Commonwealth v. Apollo, 603 A.2d 1023, 1028 (Pa. Super. Ct. 1992).
Commonwealth v. Miller, 532 A.2d 1186, 1189-90 (Pa. Super. Ct. 1987).

Testimony of police officer is insufficient to establish scientific reliability of HGN test.
Moore, 635 A.2d at 692.
Miller, 532 A.2d at 1189-90.

Testimony of behavioral optometrist did not establish general acceptance of HGN test.
Apollo, 603 A.2d at 1027-28.

II. Police Officer Testimony Needed to Admit HGN Test Result

County detective certified as HGN instructor. Court did not comment on whether this would be enough foundation to allow the detective to testify about HGN test results. *Moore*, 635 A.2d 629.

Police officer had one-day course on HGN. Court did not comment on whether this would be enough foundation to allow the officer to testify about HGN test results. *Miller*, 603 A.2d at 1189.

III. Purpose and Limits of HGN

Not addressed by court.

South Carolina

I. Evidentiary Admissibility

HGN admissible in conjunction with other field sobriety tests. By implication, HGN is not regarded as a scientific test. *State v. Sullivan*, 426 S.E.2d 766, 769 (S.C. 1993).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer given twenty hours of HGN training. *Sullivan*, 426 S.E.2d at 769.

III. Purpose and Limits of HGN

HGN test results admissible "to elicit objective manifestations of soberness or insobriety . . . [E]vidence from HGN tests is not conclusive proof of DUI. A positive HGN test result is to be regarded as merely circumstantial evidence of DUI. Furthermore, HGN test shall not constitute evidence to establish a specific degree of blood alcohol content." *Sullivan*, 426 S.E.2d at 769.

South Dakota

I. Evidentiary Admissibility

If it can be shown that a horizontal gaze nystagmus test was properly administered by a trained officer, such evidence should be admitted for a jury to consider at trial along with evidence of the other accepted field sobriety tests administered in South Dakota. *STATE v. HULLINGER*, 2002 SD 83; 649 N.W.2d 253 (S.D.S.Ct. 2002); 2002 S.D. LEXIS 99

II. Police Officer Testimony Needed to Admit HGN Test Result

Officer may testify if properly trained and test properly administered. At the pretrial hearing, the State presented three witnesses: 1) Monte Farnsworth, training director for the Office of Highway Safety at the Division of Criminal Investigation Law Enforcement Training Academy; 2) Deputy Ludwig; and 3) Dr. Larry Menning, optometrist and expert witness. South Dakota follows a *Daubert* standard in use of expert witnesses.

III. Purpose and Limits of HGN

The Court did not address this issue.

Tennessee

I. Evidentiary Admissibility

HGN is a scientific test. To be admissible at trial, such evidence must satisfy the requirements of Tenn. Rules of Evidence 702 and 703. State provided an inadequate amount of evidence to allow the court to conclude that HGN evidence meets this standard.
State v. Murphy, 953 S.W.2d 200 (Tenn. 1997).

II. Police Officer Testimony Needed to Admit HGN Test Result

HGN must be offered through an expert witness. To qualify as an expert, a police officer must establish that he is qualified by his "knowledge, skill, experience, training or education" to provide expert testimony to "substantially assist the trier of fact to understand the evidence or determine a fact in issue." Although the court did not rule out the possibility that the officer can be considered an expert, the court set a high level of proof. In this case, the court felt that although the officer had attended law enforcement training in DUI offender apprehension and the HGN test, this training was not enough to establish him as an expert.
State v. Grindstaff, 1998 Tenn. Crim. App. Lexis 339 (March 23, 1998).

III. Purpose and Limits of HGN

The Court did not address this issue.

Texas

I. Evidentiary Admissibility

HGN admissible under the Texas Rules of Evidence. *Emerson v. State*, 880 S.W.2d 759, 769 (Tex. Crim. App. 1994).

II. Police Officer Testimony Needed to Admit HGN Test Result

A police officer must qualify as an expert on the HGN test, specifically concerning its administration and technique, before testifying about a defendant's performance on the test. Proof that the police officer is certified in the administration of the HGN test by the Texas Commission on Law Enforcement Officer Standards and Education satisfies this requirement. *Emerson*, 880 S.W.2d at 769.

III. Purpose and Limits of HGN

HGN admissible to prove intoxication, but not accurate enough to prove precise BAC. *Emerson*, 880 S.W.2d at 769.

Utah

I. Evidentiary Admissibility

HGN test admissible as other field sobriety test. Court reserved judgment as to the scientific reliability of HGN. *Salt Lake City v. Garcia*, 912 P.2d 997, 1001 (Utah Ct. App. 1996).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer need only testify as to training, experience and observations when HGN admitted as a field test. *Garcia*, 912 P.2d at 1001.

III. Purpose and Limits of HGN

Admissible as any other field sobriety test. *Garcia*, 912 P.2d at 1000-01.

Washington

I. Evidentiary Admissibility

It is "undisputed" in the relevant scientific communities that "an intoxicated person will exhibit nystagmus". HGN testing is not novel and has been used as a field sobriety test for "decades" and is administered the same whether investigating alcohol impairment or drug impairment. Thus, the use of HGN in drug and alcohol impaired driving cases is acceptable. *State v. Baity*, 140 Wn.2d 1, 991 P.2d 1151 (Wash. 2000).

"[T]he *Frye* standard applies to the admission of evidence based on HGN testing, unless . . . the State is able to prove that it rests on scientific principles and uses techniques which are not 'novel' and are readily understandable by ordinary persons." The state failed to present any evidence to this fact and the court declined to take judicial notice of HGN. *State v. Cissne*, 865 P.2d 564, 569 (Wash. Ct. App. 1994).

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

West Virginia

I. Evidentiary Admissibility

The state did not present evidence for the court to reach "the question of whether the HGN test is sufficiently reliable to be admissible." However, the court did conclude "that even if the reliability of the HGN test is demonstrated, an expert's testimony as to a driver's performance on the test is admissibile only as evidence that the driver was under the influence. Estimates of blood alcohol content based on the HGN test are inadmissible." *State v. Barker*, 366 S.E.2d 642, 646 (W. Va. 1988).

The West Virginia Supreme Court modified *State v. Barker* to the extent that the *Daubert* analysis of FRE 702 is applicable to the question of admissibility of expert testimony under the West Virginia Rules of Evidence Rule 702. *Wilt v. Buracker*, 443 S.E. 2d 196 (W.Va. 1993).

II. Police Officer Testimony Needed to Admit HGN Test Result

Police officer's training consisted of a one-day, eight-hour training session conducted by the state police. Officer testified to giving the HGN test about 100 times. Court did not reach question of whether this would be enough to allow the officer to testify about the HGN test results. *Barker*, 366 S.E.2d at 644.

III. Purpose and Limits of HGN

HGN test results admissible to show probable cause in a civil hearing.
Muscatell v. Cline, 474 S.E.2d 518, 525 (W. Va. 1996).
Boley v. Cline, 456 S.E.2d 38, 41 (W. Va. 1995).

"[I]f the reliability of the HGN test is demonstrated, an expert's testimony as to a driver's performance on the test is admissible only as evidence that the driver was under the influence," the same as other field sobriety tests. *Barker*, 366 S.E.2d at 646.

Wisconsin

I. Evidentiary Admissibility

The court held that the HGN test results are admissible in this case because the test results were not the only evidence. The results were accompanied by the expert testimony of the officer. *State v. Zivcic*, 598 N.W.2d 565 (Wisc. Ct. App. 1999). **See also**, *State v. Maxon*, 633 N.W. 2d 278 (Wisc. Ct. App. 2001)

II. Police Officer Testimony Needed to Admit HGN Test Result

A police officer who is properly trained to administer and evaluate the HGN test can testify to the test results. A second expert witness is not needed. *State v. Zivcic*, 598 N.W.2d 565 (Wisc. Ct. App. 1999).

III. Purpose and Limits of HGN

The Court did not address this issue.

Wyoming

I. Evidentiary Admissibility

SFSTs, including HGN, are admissible to establish probable cause when administered in *substantial compliance* with NHTSA guidelines. Strict compliance is not necessary. The court took judicial notice of the number of states that allow HGN evidence on the basis of the "officer's training, experience and ability to administer the test". *Smith v. Wyoming*, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

II. Police Officer Testimony Needed to Admit HGN Test Result

A police officer that is properly trained to administer and evaluate the HGN test can testify to HGN results.
Smith v. Wyoming, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

III. Purpose and Limits of HGN

HGN test results are admissible to show probable cause.
Smith v. Wyoming, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

United States

I. Evidentiary Admissibility

U.S. V. Eric D. Horn, 185 F. Supp. 2d 530 (D. Maryland 2002) In this case, U.S. District Court in Maryland made the first application of the newly revised FRE 702 to the HGN and other SFSTs.

Results of properly administered WAT, OLS and HGN, SFSTs may be admitted into evidence in a DWI/DUI case only as circumstantial evidence of intoxication or impairment but not as direct evidence of specific BAC.

Officer must first establish his qualifications to administer the test - training and experience, not opinion about accuracy rate of test or causal connection between alcohol consumption and exaggerated HGN.

Government may prove causal connection by: judicial notice, expert testimony, or learned treatise. Horn may prove other causes by: judicial notice, cross-examination of state's expert, defense expert, or learned treatise.

U.S. V. Daras, 1998 WL 726748 (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.*

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 there 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...").

3. Aschan & Bergstedt, Positional Alcoholic Nystagmus in Man Following Repeated Alcohol Doses, 80 ACTA OTOLARYNGOL SUPP. 330 (Sweden 1975) (abstract available on DIALOG, file 173: Embase 1975-79) (degree of intoxication influences both PAN I and PAN II).

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.

5. Baloh, Sharma, Moskowitz & Griffith, Effect of Alcohol and Marijuana on Eye Movements, 50 AVIAT. SPACE ENVIRON. MED., Jan 1979, at 18 (abstract available on DIALOG, file 153: Medline 1979-79) (smooth pursuit eye movement effects of alcohol overshadowed those of marijuana).

6. Barnes, The Effects of Ethyl Alcohol on Visual Pursuit and Suppression of the Vestibulo-Ocular Reflex, 406 ACTA OTOLARYNGOL SUPP. 161 (Sweden 1984) (ethyl alcohol disrupted visual pursuit eye movement by increasing number of nystagmic "catch-up saccades").

7. Burns & Moskowitz, Psychophysical Tests for DWI Arrest, U.S. Dept. of Transportation Rep. No. DOT-HS-802-424 (1977) (recommended the three-test

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

9. Church & Williams, Dose- and Time-Dependent Effects of Ethanol, 54 ELECTROENCEPHALOGRAPHY & CLIN. NEUROPHYSIOL., Aug. 1982, at 161 (abstract available on DIALOG, file 11: Psychinfo 1967-85 or file 72: Embase 1982-85) (positional alcohol nystagmus increased with dose levels of ethanol).

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.).

12. Fregly, Bergstedt & Graybiel, Relationships Between Blood Alcohol, Positional Alcohol Nystagmus and Postural Equilibrium, 28 Q.J. OF STUD. ON ALCOHOL, March 1967, at 11, 17 (declines from baseline performance levels correlated with peak PAN I responses and peak blood alcohol levels).

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...(O)fficers 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).

16. Lehti, The Effect of Blood Alcohol Concentration on the Onset of Gaze Nystagmus, 136 BLUTALKOHOL 414 (West Germany 1976) (abstract available on DIALOG, file 173: Embase 1975-79) (noted a statistically highly significant correlation between BAC and the angle of onset of nystagmus with respect to the midpoint of the field of vision).

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).

18. Murphree, Price & Greenberg, Effect of Congeners in Alcohol Beverages on the Incidence of Nystagmus, 27 Q.J. OF STUD. ON ALCOHOL, June 1966, at 201 (positional nystagmus is a consistent, sensitive indicator of alcohol intoxication).

19. Nathan, Zare, Ferneau & Lowenstein, Effects of Congener Differences in Alcohol Beverages on the Behavior of Alcoholics, 5 Q.J. OF STUD. ON ALCOHOL SUPP., may 1970, at 87 (abstract available on DIALOG, file 11: Psychinfo 1967-85) (incidence of nystagmus and other nystagmoid movements increased with duration of drinking).

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).

21. Nuotto, Palva & Seppala, Naloxone Ethanol Interaction in Experimental and Clinical Situations, 54 ACTA PHARMACOL. TOXICOL. 278 (1984) (abstract available on DIALOG, file 5: Biosis Previews 1981-86) (ethanol alone dose-dependently induced nystagmus).

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).

23. Penttila, Lehti & Lonnqvist, Nystagmus and Disturbances in Psychomotor Functions Induced by Psychotropic Drug Therapy, 1974 PSYCHIAT. FENN. 315 (abstract available on DIALOG, file 173: Embase 1975-79) (psychotropic drugs induce nystagmus).

24. Rashbass, The Relationship Between Saccadic and Smooth Tracking Eye Movements, 159 J. PHYSIOL. 326 (1961) (barbiturate drugs interfere with smooth tracking eye movement).

25. Richman, McAndrew, Decker and Mullaney, An Evaluation of Pupil Size Standards Used By Police Officers for Detecting Drug Impairment, Vol. 75, No. 3, March 2004, Opportunity, determined normative values and potential ranges for pupillary responses using the specific DEC program protocols for pupil testing in non-impaired persons.

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.).

28. Smith, Hayes, Yolton, Rutledge and Citek, Drug Recognition Expert Evaluations Made Using Limited Data, Forensic Science International 130 (2002), p. 167-173, demonstrated that DRE officers can make a correct positive identification of drug intoxication with limited information.

29. Tharp, Burns & Moskowitz, Circadian Effects on Alcohol Gaze Nystagmus (paper presented at 20th annual meeting of Society for Psychophysiological Research), abstract in 18 PSYCHOPHYSIOLOGY, March 1981 (highly significant correlation between angle of onset of AGN and BAC).

30. Tharp, Burns & Moskowitz, Development and Field Test of Psychophysical Tests for DWI Arrests, U.S. Dept. of Transportation Rep. No. DOT-HS-805-864 (1981) (standardized procedures for administering and scoring the SCRI three-test battery; participating officers able to classify 81% of volunteers above or below .10).

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).

32. Wilkinson, Kime & Purnell, Alcohol and Human Eye Movement, 97 BRAIN 785 (1974) (oral dose of ethyl alcohol impaired smooth pursuit eye movement of all human subjects).

33. Zyo, Medico-legal and Psychiatric Studies on the Alcohol Intoxicated Offender, 30 JAPANESE J. OF LEGAL MED., No. 3, 1976, at 169 (abstract available on DIALOG, file 21: National Criminal Justice Reference Service 1972-85) (recommends use of nystagmus test to determine somatic and mental symptoms of alcohol intoxication as well as BAC).

Two Hours and Thirty Minutes

SESSION IV

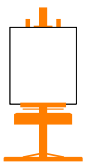
OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES

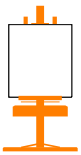
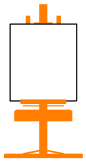
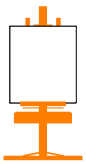
SESSION IV OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES

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.

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

Aids	Lesson Plan	Instructor Notes
 IV-1 (Title)	**OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES**	Total Lesson Time: Approximately 150 Minutes Display Session Title
 IV-2A&B (Objectives)		Briefly describe the objectives for this session.
 35 Minutes	**A. Components of the Process** 1. The DEC procedure is a standardized and systematic method of examining a subject to determine:	
 IV-3 (Systematic & Standard-ized)	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 <u>systematic</u> 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.	Write on the dry erase board or flip-chart: "A SYSTEMATIC PROCESS"

Aids	Lesson Plan	Instructor Notes
	a. Some of these observable signs and symptoms relate to the subject's <u>appearance</u>.	<u>Write</u> "appearance" on the dry erase board or flip-chart.
	b. Some of the signs and symptoms relate to the subject's <u>behavior</u>.	<u>Write</u> "behavior" on the dry erase board or flip-chart.
	c. Some relate to the subject's performance of carefully administered <u>psychophysical tests</u>.	<u>Write</u> "psychophysical testing" on the dry erase board or flip-chart. <u>Ask</u> students: "What does 'psychophysical' mean?" <u>Point out</u> that "psycho-physical" relates to the subject's <u>mind</u> (psyche) and <u>body</u> (physique).
	• 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 <u>automatic responses</u> to the specific	Write "automatic responses of the body" on the dry erase board or flip-chart.

Aids	Lesson Plan	Instructor Notes
	drugs that are present. e. <u>All</u> of these reliable indicators are examined and carefully considered before a judgment is made concerning what categories of drugs are affecting the subject.	
	3. The evaluation is <u>standardized</u> in that it is administered the same way, every time. a. Standardization helps to ensure that no mistakes are made.	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.
	• No examinations are left out. • No extraneous or unreliable "indicators" are included.	
		<u>Ask</u> 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.

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 on 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.	
  IV-4 (Breath Alcohol Test)	4. The Drug Evaluation and Classification drug influence evaluation has <u>twelve</u> components. a. The <u>Breath Alcohol Test</u> is needed to determine Blood Alcohol Concentration (BAC). ● 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	Refer students to the 12-Step evaluation checklist on page IV-2 of their participants manual.

Aids	Lesson Plan	Instructor Notes
	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.	Remind students that many suspects who are under the influence of drugs other than alcohol also have alcohol in their bodies.
IV-5 (Interview of ... Officer)	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.	
IV-6A&B (Preliminary Examination)	c. The Preliminary Examination. • The preliminary examination is your first opportunity to observe	NOTE: Remind students that protective gloves must be worn from this portion of the examination.

Aids	Lesson Plan	Instructor Notes
	the subject closely and directly.	
	• 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.	Analogy: The preliminary examination is a "fork in the road." 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.
	• 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.	Emphasize that the term "preliminary" does not imply "unimportant". Very valuable evidence often comes to light during the preliminary examination.
	• 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.	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 "jerking" 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. 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

Aids	Lesson Plan	Instructor Notes
		they should advise suspects of their Constitutional rights before asking these questions.
	d. <u>Examinations of the Eyes</u>.	
IV-7A&B (Eye Exams)	• Certain Drugs produce very easily observable effects on the eyes.	
		<u>Ask</u> students: "What do we look for, in a subject's eyes, to determine if he or she may be under the influence of <u>alcohol</u>?"
		Probe, as necessary, to draw out the response "nystagmus".
	• One of the most dramatic of these effects is <u>nystagmus</u>, which means an involuntary jerking of the eyes.	
	• Persons under the influence of alcohol usually will exhibit <u>Horizontal Gaze Nystagmus</u>, 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.	<u>Point out</u> that the examinations of the eyes will be covered in much greater depth subsequently.
IV-8A&B (Divided Attention Tests)	e. Divided Attention Psychophysical tests.	<u>Ask</u> students: "What does 'divided attention' mean?"

Aids	Lesson Plan	Instructor Notes
	• All drugs that impair driving ability will also impair the subject's ability to perform certain carefully designed divided attention tests.	Probe, as necessary, to draw out responses indicating the concept of "concentrating on more than one thing at a time".
	• These tests are familiar to you in the context of examining alcohol impaired subjects.	
	• The same tests are very valuable for disclosing evidence of impairment due to drugs other than alcohol.	Point out that students will have opportunities to practice administering these tests subsequently in the course.
	• 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.	
IV-9A&B (Vital Signs Exams)	f. Examinations of Vital Signs.	
	• Many categories of drugs affect the operation of the heart, lungs and other major organs of the body.	
	• These effects show up during examination of the subject's vital signs.	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.

Aids	Lesson Plan	Instructor Notes
  IV-10A&B (Dark Room Exams)	• The vital signs that are reliable indicators of drug influence include blood pressure, pulse, and temperature. g. <u>Dark Room Examinations</u> • Many categories of drugs affect how the pupils will appear, and how they respond to light. • Certain kinds of drugs will cause the pupils to widen dramatically, or <u>dilate</u>. • Some other drugs cause the pupils to narrow, or <u>constrict</u>. • By systematically changing the amount of light entering the subject's eyes, we can observe the pupils' appearance and reaction under controlled conditions. • We carry out these examinations in a dark room, using a penlight to control the amount of illumination entering the subject's eyes. • We use a device called a <u>pupillometer</u> to estimate the size of the subject's pupils.	Exhibit a penlight. Exhibit a pupillometer. Point out that the pupillometer has a series of circles or semi circles of various sizes.

Aids	Lesson Plan	Instructor Notes
	• 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.	By lining the circles up along side the subject's pupil, the pupil's size can be determined <u>Point out</u> that students will have several opportunities to practice conducting dark room examinations subsequently in the course.
 IV-11A&B (Muscle Tone)	h. Examination for <u>Muscle Tone</u>. • Certain categories of drugs can cause the user's muscles to become markedly tense, and rigid. Others may cause flaccidity, or "rub-bery-like" muscle tone.	
	• Evidence of this muscle tone may come to light when the subject attempts to perform the divided attention test.	<u>Point out</u> that examination for muscle tone will be covered in greater depth subsequently in the course.
	• Evidence of muscle tone can also be observed when taking the subject's pulse, blood pressure or while examining for injection sites.	
 IV-12A&B (Examination for Injection Sites)	i. Examination for <u>Injection Sites</u>. • Certain drugs are commonly injected by their users, via hypodermic needles.	<u>Ask</u> students: "What drug is most often associated with injection via hypodermic needle?"

Aids	Lesson Plan	Instructor Notes
	• 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.	
  IV-13A&B (Statements and Other Observations)	j. Suspect's <u>statements and other observations.</u> • 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.	<u>Emphasize</u> that any such interview can proceed only in conformance with formal admonition and strict observance of the suspect's Constitutional rights. <u>Point out</u> that the appropriate procedures for interviewing suspects vary with the probable category or categories of drugs involved.

Aids	Lesson Plan	Instructor Notes

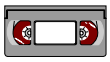
IV-14
(Opinion of Evaluator)
	k. <u>Opinion of Evaluator</u>
	
	• Based on all of the evidence and observations gleaned from the preceding <u>ten</u> steps, the DRE must reach an informed conclusion as to:
	
	  • whether the subject is under the influence of a drug or drugs
	
	  • if so, the probable category or categories of drugs causing the impairment	

  IV-15 (Toxicological Examination)	• The DRE must record a narrative summary of the facts forming the basis for their conclusion. l. <u>Toxicological Examination</u> • The toxicological examination is a chemical test or tests designed to obtain scientific, admissible evidence to substantiate the DRE's conclusion. • Departmental policy and procedures must be followed in requesting, obtaining and handling the toxicological sample.	Solicit students' comments and questions concerning this preview of the Drug Evaluation and Classification procedures.

Aids	Lesson Plan	Instructor Notes
 10 Minutes	**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.	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.
 IV-16A&B (Interview: Behavior)	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	Ask students to suggest any other questions that might be relevant concerning the

Aids	Lesson Plan	Instructor Notes
	arresting officer and have there been any changes?	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.
 IV-16C (Interview: Statements)	3. Issues concerning the subject's statements. a. Has the subject complained of an illness or injury? b. Has the subject used any "street terms" or slang associated with drugs or drug paraphernalia? c. How has the subject responded to the arresting officer's questions? d. Does the subject's speech appear to be slurred, slow, rapid, thick, mumbled, etc.? e. What, specifically, has the subject said to the arresting officer?	<u>Ask</u> students to suggest any other questions that might be relevant concerning statements the subject made in the arresting officer's presence.
 IV-16D (Interview: Physical Evidence)	4. Issues concerning physical evidence. a. What items or materials were uncovered during the search of the subject or vehicle?	

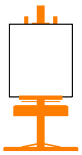
Aids	Lesson Plan	Instructor Notes
	b. Were any smoking paraphernalia uncovered?	
	c. Were any injection materials, i.e., needles, syringes, leather straps, rubber tubes, spoons, bottle caps, etc. found?	
	d. Were there any balloons, plastic bags, small metal foil wrappings, etc. found?	
	e. What was the subject's blood alcohol concentration?	NOTE: Emphasize that the subject should be requested to submit to a breath test, if that has not already been done. Ask students to suggest any other relevant questions concerning physical evidence. Solicit students' comments and questions concerning the interview of the arresting officer.
 20 Minutes	**C. The Preliminary Examination**	
 IV-17 (Overview of 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

Aids	Lesson Plan	Instructor Notes
		during the drug influence evaluation.
	2. The questions deal with injuries or medical problems the subject may have. They include:	
IV-18 (Preliminary Examination Questions)	a. Are you sick or injured?	
	b. Do you have any physical defects?	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.
	c. Are you diabetic or epileptic?	
	d. Do you take insulin?	Briefly discuss the relevance of each question.
	e. Are you under a doctor or dentist's care?	
	f. Are you taking medication?	Show video segment, "Preliminary Examination Questions" (optional)
	3. The initial checks of the subject's eyes include several particularly important items.	
IV-19 (Initial Checks of Eyes)	a. Checks of the size of each pupil. o A pupillometer is utilized for this check	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. Also point out that the influence of certain categories of drugs may be indicated if the pupils are dilated or constricted.

Aids	Lesson Plan	Instructor Notes
	b. Assessment of the ability of the eyes to track a moving object.	Demonstrate how to use a stimulus to assess the ability of eyes to track a moving object.
	• The presence of Nystagmus indicates the possible presence of certain categories of drugs.	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.
	c. Initial estimation of the angle of onset of Horizontal Gaze Nystagmus.	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.
	• The approximate angle of onset may indicate the presence of some drug other than alcohol.	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. 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. 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

Aids	Lesson Plan	Instructor Notes
		Anesthetic, the onset could occur much earlier, perhaps as soon as the eyes start to move to the side. <u>Emphasize</u> 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. <u>But also emphasize</u> 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. For example, Cannabis, Narcotic Analgesics, CNS Stimulants and Hallucinogens do <u>not</u> cause nystagmus, and will <u>not</u> affect the onset angle.
10 Minutes	**D. Examinations of the Eyes**	
 IV-20 (Eye Examina-tions)	1. The Examinations of the Eyes consist of three tests:	Selectively reveal the items on the slide.
	a. Horizontal Gaze Nystagmus (HGN).	<u>Emphasize</u> that this test is a full scale, formal and precise examination, unlike the initial estimation of angle of onset conducted during the preliminary examination.

Aids	Lesson Plan	Instructor Notes
	• Clue #1 - Lack of smooth pursuit • Clue #2 - Distinct and sustained nystagmus at maximum deviation • Clue #3 - Angle of Onset	Point out the importance of checking for each of these clues in every examination of the eyes. 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."
	b. Vertical Gaze Nystagmus.	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. 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. Point out that certain types of drugs tend to cause Vertical Gaze Nystagmus, while others

Aids	Lesson Plan	Instructor Notes
		do not. Also point out that Vertical Gaze Nystagmus tends to develop with relatively high doses of certain drugs for that individual.
 IV-20A (LOC)	c. Lack of Convergence.	<u>Point out</u> 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.
	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.	<u>Point out</u> that the circular motion (either left or right) serves to demonstrate that the subject is tracking the stimulus. <u>Demonstrate</u> this circular motion, using the student volunteer.
	3. Then, the stimulus is slowly pushed in toward the bridge of the subject's nose and held for approximately one (1) second.	<u>Demonstrate</u>, using the student volunteer. <u>Point out</u> that the stimulus does not actually touch the subjects nose, stopping approximately 2 inches from the nose.
	4. Under the influence of certain types of drugs, the eyes may not be able to converge.	Illustrate on the dry erase board or flip-chart different examples of Lack of Convergence. Point out that many people may not be able to converge their eyes.

Aids	Lesson Plan	Instructor Notes
		Excuse the student volunteer and thank him or her for participating. Solicit students' comments and questions concerning the Examinations of the Eyes.
10 Minutes	**E. Divided Attention Psychophysical Tests**	
 IV-21 (Divided Attention 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.	Point out that complete demonstrations of all four tests will be given later. For the present, we will demonstrate only the Walk and Turn.
	a. Instructions stage.	Select a student known to be proficient in administering the

Aids	Lesson Plan	Instructor Notes
		Walk and Turn test.
	b. Walking stage.	Select another student to serve as the test subject.
		Instruct the student administrator to administer the Walk and Turn test to the student subject.
		Point out that officer safety is of major importance during this test
		Excuse the students, following the demonstration, and thank them for participating.
		Point out that students will have numerous opportunities to observe and practice the divided attention tests during the remainder of the course.
5 Minutes	**F. Examinations of Vital Signs**	
	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 Measure-ments)	a. Blood pressure b. Pulse c. Temperature	
	2. These measurements require some familiar instruments.	
	a. Stethoscope	Display these items.

Aids	Lesson Plan	Instructor Notes
	b. Blood pressure cuff and gauge (sphygmomanometer)	
	c. Thermometer	NOTE: An oral thermometer with disposable mouthpieces is recommended.
	d. Timepiece capable of measuring in seconds.	Point out that procedures for measuring blood pressure, pulse and temperature will be explained and practiced subsequently. Solicit students' comments and questions concerning examinations of vital signs.
 15 Minutes	**G. Dark Room Examinations**	
 IV-23 (Dark Room Checks of Pupil Size)	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	Point out that the Room Light measurement is conducted prior to darkening the room lights.
	2. Another officer should always accompany you and the subject into the dark room.	Point out that this is essential for officer safety. Remind students that no one should be

Aids	Lesson Plan	Instructor Notes
		carrying a weapon when in the presence of a subject during a drug evaluation and classification examination.
		Point out that some departments require that the subject be handcuffed before going into the darkroom.
	3. Before turning off the lights, you will estimate the size of the subject's pupils under room light.	
	a. You must always first estimate the left pupil, then the right .	Point out that the subject should be instructed not to try to focus on you or on the penlight, but to look "slightly up and at a specific focal point" (straight ahead and several feet away) during the estimation of pupil size.
	b. You must position the pupillometer alongside the eye to ensure an accurate estimation.	
	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.	
	4. The next check will be of pupil size under near total darkness.	
	a. You will need the bare minimum amount of light necessary to see the	

Aids	Lesson Plan	Instructor Notes
	subject's pupils and the pupillometer.	
	b. You can create the necessary light by covering the tip of the penlight with your finger or thumb.	Demonstrate this. Point out the reddish glow that emanates. If possible, darken the room and exhibit the reddish glow.
	c. 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).	
	d. Hold the pupillometer alongside the eye and locate the circle or semi-circle closest in size to the pupil.	
	e. Repeat the procedure for the right eye.	
	5. The third and final check will be of the pupil size under direct light.	
	a. You will shine the full strength of the penlight directly into the subject's eye for 15 seconds.	Point out that it is necessary to maintain reasonably fresh batteries in the penlight.
	b. Do this by bringing the light in from the side of the student's face.	Demonstrate this, using the student volunteer.
	c. The penlight should be held close enough to the subject's eye so that its beam fills the eye socket.	Demonstrate this. Point out that this will illuminate the area that usually would be discolored if the subject had a "black eye".

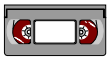
Aids	Lesson Plan	Instructor Notes
	d. When the light is initially shown into the eye, you will check for the pupils reaction to light. Then immediately estimate the pupil size under direct light.	If possible, darken the room and exhibit the illumination of the student volunteer's eye socket.
	6. Two other activities are conducted while in the darkroom. a. Examination of the nasal area. b. Examination of the oral cavity.	<u>Emphasize</u> 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. Excuse the student and thank him or her for participating. Solicit students' comments and questions concerning these checks of pupil size.
10 Minutes **IV-24** (Muscle Tone)	**H. Examination of Muscle Tone** 1. Starting with the left arm, examine the arm muscles. 2. Firmly grasp the upper arm and slowly move down to determine muscle tone. 3. The muscles will appear flaccid, near normal or rigid to the touch. 4. Examine the right arm in the same fashion.	 Demonstrate.

Aids	Lesson Plan	Instructor Notes
  10 Minutes **IV-25** (Injection Sites)	**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 <u>fresh</u> injection site may not be readily observable. 3. Frequently, a DRE will locate the injection site initially by <u>touch</u>, 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 <u>ski light</u> is used to provide a magnified visual examination.	<u>Point out</u> 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. <u>Select</u> a student and demonstrate a tactile search for injection sites. "Ski": short for schematic. <u>Display</u> this instrument. <u>Demonstrate</u> its use. Solicit students' comments and questions concerning examination for injection sites.

Aids	Lesson Plan	Instructor Notes
	5. Hypodermic needles are sized according to gauge. The gauge of a needle is a measurement of the inside diameter.	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.
	6. During this step, the third pulse is taken.	
10 Minutes	**J. Suspect Statements**	Note: Give specific examples of probing questions, admissions and denials.
IV-26 (Statements)	1. All spontaneous statements and suspect's response to questions should be documented. Ask additional probing questions as appropriate.	Ask students for additional examples and list all on dry erase board or flip-chart.

Aids	Lesson Plan	Instructor Notes
20 Minutes **IV-27** (Opinion of Evaluator)	**K. Opinion of Evaluator** 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. 2. This opinion is based on the totality of the investigation.	Remind students to make sure the suspect has been advised of their constitutional rights.
20 Minutes **IV-28** (Toxicological Examination)	**L. Toxicological Examination** 1. Toxicology Samples Your State's implied consent statues will dictate the type of sample you can obtain; urine, blood, breath or saliva. 2. Specimen Containers 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. b. Containers should be sterile and have a lid that will seal tightly. Make sure the seal is tight to prevent leakage.	Review the students' department's policy and procedures for requesting, obtaining and handling toxicological samples. Ask the students to relate the laws of their state. The implied consent laws may vary significantly from state to state. Have the students discuss their individual laws and possibly write their requirements on the flip-chart for comparison.

Aids	Lesson Plan	Instructor Notes
	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. 3. Obtaining a Sample a. Urine - Normally the officer must witness the collection of the sample. b. Blood - Should be drawn by a qualified technician and witnessed by the officer. The sample must include a preservative. This is often pre-packaged in the container intended for this use. Samples should be refrigerated or frozen as soon as possible to minimize degeneration during storage. 4. Chain of Custody a. Establish a policy dictating the chain of custody, if one does not already exist. b. Establish a policy for your Department on: The sealing of evidence to include officer identification markings; (i.e. initials, labels, tags and packaging)	

Aids	Lesson Plan	Instructor Notes
	Paperwork for the chain of custody and laboratory analysis of your sample. Transportation of the sample to the laboratory. Return reporting of the laboratory analysis.	<u>Note</u>: 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. Solicit students' comments and questions concerning toxicological examinations.
		
25 Minutes	**M. Video Demonstration**	Instruct students to refer to their checklists as they watch the video. Show the Video "Overview of DRE Procedures". (This is the same video that is shown during Session II of the Pre-School and subsequently in Session VIII of this school.) Solicit students' comments and questions.

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?

   1. Breath test 2. Interview with arresting officer 3. Preliminary exam 4. Eye exam 5. Divided attention tests 6. Vital sign exam 7. Dark room exam 8. Muscle tone exam 9. Injection site exam 10. Suspect interview 11. Opinion of evaluator 12. Toxicology

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

Session IV

Overview of Drug Recognition Expert Procedures

IV-1

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**

Drug Evaluation & Classification Training IV-2A

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**

Drug Evaluation & Classification Training IV-2B

The Drug Influence Evaluation

A systematic and standardized process

Drug Evaluation & Classification Training IV-3

Drug Influence Evaluation Steps

1. Breath Alcohol Test

Drug Evaluation & Classification Training IV-4

2. Interview of the Arresting Officer

Drug Evaluation & Classification Training IV-5

3. Preliminary Examination

Drug Evaluation & Classification Training IV-6A

3. Preliminary Examination

Drug Influence Evaluation

Evaluator	DIRE No.	Rolling Log No.		
Suspect/Witness	Crash: ☐ Fatal ☐ Injury ☐ Property			
Arrestee's Name (Last, First, MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Date Examined/Time/Location	Breath Sample Instrument #	☐ Submitted ☐ Refused	Chemical Test	☐ Urine ☐ Blood ☐ Refused
Miranda Warning Given ☐ Yes ☐ No By:	What have you eaten today?	When?	Have you been drinking?	How much? / Time of last drink?
Time now? / When did you last sleep?	How long?	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 under the care of a doctor or dentist? ☐ Yes ☐ No
Are you taking any medication or drugs? ☐ Yes ☐ No		Attitude		Coordination
		Breath		Face
Speech		Eyes: ☐ Bloodshot Conjunctiva ☐ Normal ☐ Bloodshot ☐ Watery	Pupil Size: ☐ Normal ☐ L.Eye ☐ R.Eye	Tracking: ☐ Equal ☐ Unequal
Convulsive Lean: ☐ None ☐ Clumsy ☐ Confusion, If so: ☐ Hard ☐ Soft	Pupil Size: ☐ Equal ☐ Unequal (explain)		Able to follow instructions: ☐ Yes ☐ No	Attitude: ☐ Normal ☐ Drowsy

Drug Evaluation & Classification Training IV-6B

4. Examination of the Eyes

Drug Evaluation & Classification Training IV-7A

4. Examination of the Eyes

HGN Lack of Smooth Pursuit	Left Eye	Right Eye	Vertical Gaze Nystagmus? ☐ Yes ☐ No
Max. Deviation			Convergence: Right Eye ◯ Left Eye ◯
Angle of Onset			

Drug Evaluation & Classification Training IV-7B

5. Divided Attention Tests

Drug Evaluation & Classification Training IV-8A

5. Divided Attention Tests

One Leg Stand:

Type of Footwear

○ Right △ Left
Draw lines to spots touched

Balance Eyes Closed

Internal Clock
Estimated at 30 sec.

Walk And Turn Test

Cannot keep balance
Starts too soon

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

Describe Turn

Cannot Do Test (explain)

Drug Evaluation & Classification Training IV-8B

6. Examination of Vital Signs

Drug Evaluation & Classification Training IV-9A

6. Examination of Vital Signs

Pulse & Time

1. _____/_____
2. _____/_____
3. _____/_____

Blood Pressure Temp

_____/_____ _____°

Drug Evaluation & Classification Training IV-9B

7. Dark Room Examinations

Drug Evaluation & Classification Training IV-10A

7. Dark Room Examinations

PUPIL SIZE	Room Light	Darkness	Direct	NASAL AREA
Left Eye				
Right Eye				ORAL CAVITY
HIPPUS ☐ Yes ☐ No	REBOUND DILATION ☐ Yes ☐ No		Reaction to Light	

Drug Evaluation & Classification Training IV-10B

8. Examination of Muscle Tone

Drug Evaluation & Classification Training IV-11A

8. Examination of Muscle Tone

MUSCLE TONE:
☐ Near Normal ☐ Flaccid ☐ Rigid

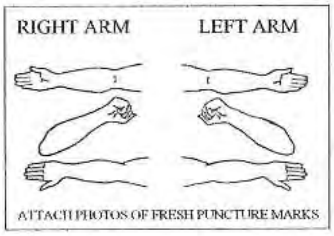
Comments:

Drug Evaluation & Classification Training IV-11B

9. Examination for Injection Sites

Drug Evaluation & Classification Training IV-12A

9. Examination for Injection Sites



Drug Evaluation & Classification Training IV-12B

10. Suspect's Statements and other Observations

Drug Evaluation & Classification Training IV-13A

10. Subject's statements and other Observations

What medicine or drug have you been using? How much?		Time of use?	Where were the drugs used? (Location)
Date Time of Arrest	Time DRE Notified	Eval. Start Time	Time Completed
Member Signature (Include Rank)	ID No.	Reviewed By	
Opinion of Evaluator ☐ Rule Out ☐ Medical	☐ Alcohol ☐ Depressant	☐ Stimulant ☐ Hallucinogen	☐ Dissociative Anesthetic ☐ Inhalant ☐ Narcotic Analgesic ☐ Cannabis

Drug Evaluation & Classification Training IV-13B

11. Opinion of the Evaluator

Drug Evaluation & Classification Training IV-14

12. Toxicological Examination

Drug Evaluation & Classification Training IV-15

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?

Drug Evaluation & Classification Training IV-16A

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?

Drug Evaluation & Classification Training IV-16B

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?

Drug Evaluation & Classification Training IV-16C

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?

Drug Evaluation & Classification Training IV-16D

Overview of the Preliminary Examination

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

Drug Evaluation & Classification Training IV-17

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?

Drug Evaluation & Classification Training IV-18

Initial Checks of the Eyes

- Check pupil size
- Assessment of tracking ability
- Initial estimate of nystagmus angle of onset

Drug Evaluation & Classification Training IV-19

Eye Examinations

Horizontal Gaze Nystagmus

Vertical Gaze Nystagmus

Drug Evaluation & Classification Training IV-20

Eye Examinations (Continued)

Lack of Convergence

Drug Evaluation & Classification Training IV-20A

Divided Attention Tests

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

Drug Evaluation & Classification Training IV-21

Vital Signs Measurements

- Blood Pressure
- Pulse
- Temperature

Drug Evaluation & Classification Training IV-22

Dark Room Checks of Pupil Size

- Near-Total Darkness
- Direct Light

Drug Evaluation & Classification Training IV-23

Examination of Muscle Tone

- Flaccid
- Near Normal
- Rigid

Drug Evaluation & Classification Training IV-24

Examination For Injection Sites

Drug Evaluation & Classification Training IV-25

Suspect Statements

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

Drug Evaluation & Classification Training IV-26

Opinion of Evaluator

Based on the totality of the evaluation

Drug Evaluation & Classification Training IV-27

Toxicological Examination

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

Drug Evaluation & Classification Training IV-28

QUESTIONS?

Drug Evaluation & Classification Training

DRUG INFLUENCE EVALUATION

Evaluator	DRE No.	Rolling Log No.	Session IV
Recorder/Witness	Crash: ☐ None ☐ Fatal ☐ Injury ☐ Property		Case #

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)

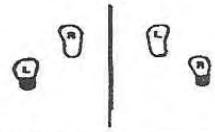
Date Examined/Time/Location	Breath Results: ☐ Refused Instrument # %	Chemical Test ☐ Refused ☐ Urine ☐ Blood

Miranda Warning Given: ☐ Yes ☐ No By:	What have you eaten today? When?	What have you been drinking? How much?		Time of last drink?
Time now?	When did you last sleep? How long?	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 under the care of a doctor or dentist? ☐ Yes ☐ No		

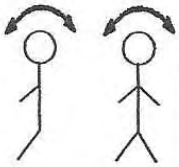
Are you taking any medication or drugs? ☐ Yes ☐ No	Attitude:	Coordination:	
	Breath:	Face:	
Speech:	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☐ Watery	Blindness: ☐ None ☐ Left Eye ☐ Right Eye	Tracking: ☐ Equal ☐ Unequal
Corrective lens: ☐ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☐ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☐ Yes ☐ No	Eyelids: ☐ Normal ☐ Droopy

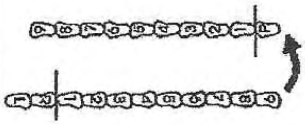
Pulse and time 1. ____/____ 2. ____/____ 3. ____/____	HGN	Left Eye	Right Eye	Vertical Nystagmus ☐ Yes ☐ No
	Lack of smooth pursuit	____	____	Convergence
	Maximum deviation	____	____	Right eye / Left eye
	Angle of onset	____	____	

One Leg Stand



Romberg Balance	Walk and Turn test	Cannot keep balance	
		Starts too soon:	





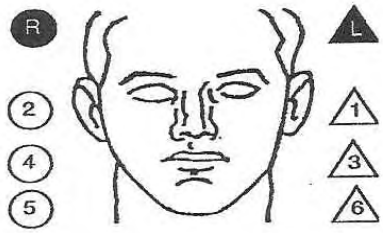
	1st Nine	2nd Nine
Stops walking		
Misses heel to toe		
Steps off line		
Raises arms		
Actual # steps		

L	R	
☐	☐	Sways while balancing
☐	☐	Uses arms to balance
☐	☐	Hopping
☐	☐	Puts foot down

Type of footwear:

Internal clock ____ Est. as 30 seconds	Describe Turn	Cannot do test (explain)	Nasal area:

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left			
Right			

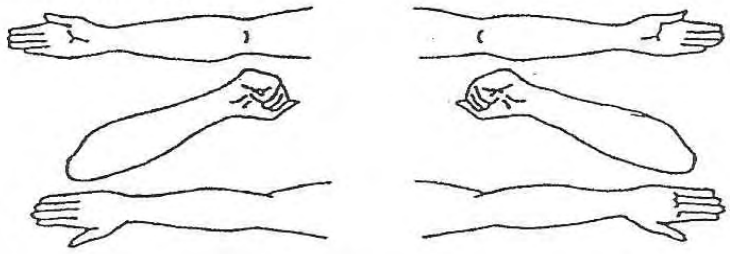
Oral cavity:

Hippus. ☐ Yes ☐ No

Rebound dilation ☐ Yes ☐ No

Reaction to Light:

RIGHT ARM **LEFT ARM**



Blood pressure ____/____	Temperature ____ °f

Muscle tone: ☐ Near normal ☐ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? How much?	Time of use?	Where were the drugs used? (location)	
Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
DRE signature (Include rank)	ID #	Reviewed by:	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

One Hour and Forty-Five Minutes

SESSION V

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

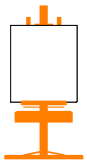
SESSION V EYE EXAMINATIONS: NYSTAGMUS, CONVERGENCE, PUPIL SIZE AND REACTION TO LIGHT

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

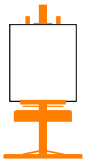
- State the purposes of various eye examinations in the DEC drug influence evaluation procedure
- Describe the administrative procedures for the eye examinations
- Describe the clues for each eye examination
- Conduct the eye examinations and note the clues observed
- Prepare complete, clear and accurate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

Content Segments	Learning Activities
A. Purpose of the Examinations	o Instructor Led Presentations
B. Procedures and Clues	o Instructor Led Demonstrations
C. Demonstrations	o Student Led Demonstrations
D. Documentation Procedures	o Students' Hands On Practice
E. Practice	o Reading Assignments

Aids	Lesson Plan	Instructor Notes
 V-1 (Title)	**EYE EXAMINATIONS**	Total Lesson Time: Approximately 105 Minutes Display Session Title Session title on wall chart.
 V-2A&B (Session Objectives)		Briefly review the content, objectives and activities of this session.
 15 Minutes	**A. Purposes of the Eye Examinations**	
 V-3 (Eye Exams)	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 <u>Horizontal and Vertical Gaze Nystagmus</u> 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.

Aids	Lesson Plan	Instructor Notes
	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.	Point out that it is very unlikely that a subject would exhibit Vertical Gaze Nystagmus without also exhibiting HGN.
	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.	Clarification: 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.
	d. The consistency of onset angle and BAC can be compared using the following formula: BAC = 50 - A	Write the formula on the dry erase board or flip-chart. Note: Emphasize that this is not an absolute mathematical formula. Explanation: BAC = 100 x blood alcohol (i.e. if blood alcohol is 0.10, BAC = 10) A = onset angle (in degrees) Example: If onset angle is 35 degrees, then BAC = 50 - 35 = 15. The corresponding blood alcohol concentration would be approximately 0.15.

Aids	Lesson Plan	Instructor Notes
	e. Keep in mind that this formula is only a statistical approximation. It is not an exact relationship for all subjects at all times.	Emphasize this point: The formula can easily be "off" by 0.05 or more, even though the subject has consumed no drug other than alcohol.
	f. 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.	Emphasize that many other facts will also be considered that will help to determine whether Dissociative Anesthetics, inhalants or CNS Depressants may be present.
	3. The check for Lack of Convergence can provide another clue as to the possible presence of Depressants, a Dissociative Anesthetic, or Inhalants.	
	4. Lack of Convergence is also an indicator of the possible presence of Cannabis.	Point out that a DRE might begin to suspect the presence of Cannabis if Lack of Convergence was observed but no nystagmus was observed.
	5. The checks of pupil size and reaction to light provide useful indicators of the possible presence of many drug categories.	
	a. CNS Depressants, CNS Stimulants and Narcotic Analgesics will normally cause the pupils to react very slowly or not visibly at all to light.	
	b. CNS Stimulants and Hallucinogens normally will cause the pupils to dilate.	

Aids	Lesson Plan	Instructor Notes
	c. Cannabis normally causes dilation of the pupils, although this isn't always observed. d. Some specific Inhalants may cause pupil dilation.	Point out: pupil dilation due to cannabis isn't always observed in laboratory studies, but may be due to that lab dose levels are less than "street" doses.
	e. Narcotic Analgesics will normally cause observable constriction of the pupils.	
	6. You will also check for hippus and rebound dilation. a. "Hippus" means a rhythmic pulsating of the pupils as they dilate and constrict within fixed limits.	Print on dry erase board or flip-chart: "HIPPUS" "REBOUND DILATION".
 V-4 (Hippus)	b. Hippus occurs under various conditions, including – at times – withdrawal from Narcotic Analgesics	Note: Instructors are encouraged to use additional visual aides to demonstrate if necessary (i.e. balloon, videos, etc.).
 V-5 (Rebound)	c. "Rebound dilation" 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.	Point out that these terms are defined in the glossary at the front of the Student's Manual. Point out that Hippus and Rebound Dilation will not be present together or at the same time.
	d. Rebound dilation has been reported with persons under the influence of Cannabis.	Solicit students' comments and questions concerning the purposes of the eye examinations.

Aids	Lesson Plan	Instructor Notes
	B. Procedures and Cues	
50 Minutes		
V-6 (HGN Clues)	1. Horizontal Gaze Nystagmus test consists of <u>three separate checks</u>, administered independently to each eye.	<u>Remind</u> students that prior to checking for the three clues of nystagmus, they need to check for equal pupil size, equal tracking and resting nystagmus.
V-6A (Lack of Smooth)	a. The first check is for "lack of smooth pursuit".	
	o If the subject is wearing eyeglasses, have him or her remove them.	<u>Select</u> a student, and demonstrate the first check of HGN on that student.
	o If the subject is wearing contact lenses, note that fact on the report, but don't have the subject remove them.	Note: Research and testing has proven that contacts will not interfere with the HGN test or cause nystagmus.
	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.	<u>Point out</u> that this procedure ensures that the subject's eyes will be wide open and easy to observe.
	o Instruct the subject to hold the head still and follow the stimulus with the eyes.	

Aids	Lesson Plan	Instructor Notes
	o Move the stimulus smoothly, all the way to the subject's left side and back all the way to the right side. 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. 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.	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.
	b. While the eye is moving, examine it for evidence of a lack of smooth pursuit.	Use these or similar analogies: (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. (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

Aids	Lesson Plan	Instructor Notes
		smooth pursuit would move more like that marble rolling over a sheet of heavy gauge sandpaper.
	c. Also, check to be sure that both eyes are tracking in the same way: if one eye is moving smoothly but the other moves hesitantly or not at all, an illness or injury may be present.	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.
	d. Students' initial practice of the check for lack of smooth pursuit.	Monitor, coach and critique the students' practice.
		Allow this practice to continue for only about 2 minutes.
V-6B (Distinct...At Maximum)	e. The second check is for "distinct and sustained nystagmus at maximum deviation". o Again position the stimulus as before. o Move the stimulus all the way to the subject's left side and hold it there so that the subject's eye is turned as far to the side as possible. o Hold the eye at that position for a minimum of 4 seconds, to check	Select a student and demonstrate the second check of HGN on that student.

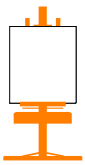
Aids	Lesson Plan	Instructor Notes
	carefully for any jerking that may be present.	Point out that for this to be a clue, the nystagmus (jerking) must be distinct and sustained.
	o When you have completed this check for the left eye, repeat the process for the right eye. Then, do it once again for the left eye, and again for the right, to verify that distinct and sustained nystagmus is present.	
	f. With this cue, the examiner looks for a very distinct, unmistakable jerking.	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.
	o A slight or barely visible tremor is not sufficient to consider this clue present.	
	o A definite, sustained jerking must be seen.	
		Excuse the student volunteer and thank him or her for participating.
	g. Students' initial practice of the check for distinct and sustained nystagmus at maximum deviation.	Instruct students to work in pairs, taking turns checking each other's eyes for distinct and sustained nystagmus at maximum deviation. Monitor, coach and critique the students' practice. Allow this practice to continue for only about 2 minutes.

Aids	Lesson Plan	Instructor Notes
	h. The final check is for the "angle of onset".	Select a student and demonstrate the third check of HGN on that student.
V-6C (Angle of Onset)	o Position the stimulus as before.	
	o Slowly move the stimulus to the subject's left side, carefully watching the eye for the first sign of jerking.	Note: Stimulus should be moved at a speed that requires approximately four seconds to travel from center all the way out to the side.
	o When you think that you see the eye jerk, stop moving the stimulus and hold it perfectly still.	
	o Verify that the eye is, in fact, jerking.	Point out 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.
	o Once you have established that you have located the point of onset, estimate the angle.	Point out that angle estimation simply requires practice.
	o Then, repeat the process for the right eye.	
	o Then, again check onset for the left eye, and again for the right.	
		Exhibit a template.
		Point out that the template will be used during practice. Excuse the student volunteer and thank them for participating.

Aids	Lesson Plan	Instructor Notes
		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.
	i. Students' initial practice of angle estimation.	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.
V-7 (VGN)	2. The Vertical Gaze Nystagmus test is very simple, and consists of a single check. a. Position the stimulus horizontally, approximately 12 -15 inches in front of the subject's nose. b. Instruct the subject to hold the head still and follow the stimulus with the eyes only. c. Raise the stimulus until the subject's eyes are elevated as far as possible.	Select a student and demonstrate the Vertical Gaze Nystagmus test on the student.

Aids	Lesson Plan	Instructor Notes
	d. Watch closely for evidence of jerking.	<u>Point out</u> that the examiner should keep the subject's eyes elevated for approximately four (4) seconds to verify that the jerking really is present. Excuse the student volunteer and thank them for participating.
	e. Students' initial practice of the Vertical Gaze Nystagmus test.	<u>Instruct</u> students to work in pairs, taking turns administering the Vertical Gaze Nystagmus test to each other. <u>Monitor</u>, coach and critique the students' practice. Allow this practice to continue for only about 2 minutes.
V-8 (LOC))	3. The test for L<u>ack of Convergence</u> is also very simple.	<u>Select</u> a student and demonstrate the test for Lack of Convergence on that student.
	a. Lack of Convergence means an inability to cross the eyes.	
	b. Position the stimulus approximately 12-15 inches in front of the person's face.	
	c. Instruct the person to hold their head still and follow the stimulus with the eyes only.	
	d. 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	<u>Point out</u> 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

Aids	Lesson Plan	Instructor Notes
	as the subject's face.	circular motion is clockwise or counter-clockwise.
	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. <u>Monitor</u>, coach and critique the students' practice.
		Allow this practice to continue for only about 2 minutes.
	4. Estimating Pupil Size	
V-9 (Est. of 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.	<u>Exhibit</u> a pupillometer

Aids	Lesson Plan	Instructor Notes
	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.	Demonstrate the positioning of the pupillometer.
	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.	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.
	e. Pupil sizes are estimated under three different lighting conditions. o Room Light o Near Total Darkness o Direct Light 5. Estimation of Pupil Size under Room Light.	Write on the dry erase board or flip-chart "The Three Lighting Conditions."

Aids	Lesson Plan	Instructor Notes
	a. The pupils are examined in room light prior to darkening the room.	Point out that since room lighting conditions can vary considerably and often cannot be controlled, the range of pupil sizes may be broad.
	b. Student's initial practice of pupil size estimation.	Instruct students to work in pairs, taking turns checking each other's pupils.
	c. 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.	Monitor, coach and critique the students' practice. Allow this practice to continue for only about 2 minutes.
	6. Estimation of Pupil Size under Near Total Darkness.	
	a. 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.	Select a student to participate in demonstrations of darkroom pupil estimations. Demonstrate this.
	b. 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).	Demonstrate this.
	c. 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.	Demonstrate this.

Aids	Lesson Plan	Instructor Notes
	d. Repeat this procedure for the subject's right eye.	
	7. Estimation of Pupil Size under Direct Light.	
	a. Bring the penlight from the side of the subject's face and shine it directly into their left eye.	Demonstrate this.
	b. Position the penlight so that it illuminates and approximately fills the subject's eye socket.	Demonstrate this. Emphasize that the penlight should be positioned so that the beam just "fits" the eye socket.
	c. Hold the penlight in that position for 15 seconds, and bring the pupillometer up alongside the left eye.	
	d. Find the circle or semi-circle that is closest in size to the pupil.	Demonstrate this.
	e. Repeat this procedure for the subject's right eye.	
		Remind students to position the penlight so that the beam exactly "fits" the eye socket when the beam is brought directly into the eye. Monitor, coach and critique the students' practice. Allow the practice to continue for only about 2 minutes. Solicit students' comments and questions concerning the eye examinations.

Aids	Lesson Plan	Instructor Notes
	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.	

Aids	Lesson Plan	Instructor Notes
	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.	
	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.	Emphasize: We consider the pupil's reaction to be slow if it takes more than one second to reach full constriction.
	e. Hold the direct light on the subject's eye for 15 seconds to assess pupil reaction.	
	f. Also check for hippus or rebound dilation during this 15 seconds period.	Caution should be used by the officer so as not to move the light beam or allow the bulb to change in light intensity.
	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.	Have students work in pairs, checking each others pupil reaction.

Aids	Lesson Plan	Instructor Notes
	C. Demonstrations	
15 Minutes	1. Demonstration of Horizontal Gaze Nystagmus.	Select two students to come before the class.
	a. Check for lack of smooth pursuit.	Instruct one student to demontrate the administration of Horizontal Gaze Nystagmus to the other student.
	b. Check for distinct and sustained nystagmus at maximum deviation.	Coach and critique the student administrator's performance. Make sure that the student administrator checks both eyes.
	c. Estimation of onset angle.	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. Excuse the two students and thank them for participating.
	2. Demonstration of Vertical Gaze Nystagmus and Lack of Convergence.	Select two other students to come before the class. Instruct one student to check the other for Vertical Gaze Nystagmus. Coach and critique the student administrator's performance. Instruct the second student to check the eyes of the first student for Lack of Convergence. Coach and critique the student administrator's performance.

Aids	Lesson Plan	Instructor Notes
		Excuse the two students and thank them for participating.
	3. Demonstration of pupil size checks and test for reaction to light.	Select two other students to come before the class.
	a. Pupil size estimation under room light.	Instruct one student to check the other's pupils under room light. Coach and critique the student administrator's performance. Instruct the second student to demonstrate how to perform the dark room checks of pupil size.
	b. Darkroom checks of pupil size. o near total darkness o direct light	Coach and critique the student administrator's performance. Point out that assessment of the pupil's reaction to light takes place in conjunction with the direct light check. Excuse the two students and thank them for participating. Solicit students' comments and questions concerning these demonstrations of the eye examinations.
5 Minutes	**D. Documentation Procedures**	Instruct students to turn to the Standardized Drug Influence Evaluation Form in their manuals.

Aids	Lesson Plan	Instructor Notes
	1. A brief examination of the eyes is made during the <u>Preliminary Examination</u>.	
V-10 (Sample Eye Data)	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.	<u>Point out</u> that section of the form.
	a. Horizontal Gaze Nystagmus	<u>Emphasize</u> that all three checks of the HGN test must be documented for each eye.
	b. Vertical Gaze Nystagmus	<u>Point out</u> that "yes" implies that Vertical Gaze Nystagmus <u>was</u> observed, "no" implies that it was <u>not</u> observed.
	c. Lack of Convergence	<u>Point out</u> that it will be necessary to diagram the movement of the eyes.
	3. The darkroom eye examinations are documented in a subsequent section of the form.	<u>Point out</u> the location of that section. <u>Emphasize</u> that all darkroom checks of the eyes must be performed and documented independently for each eye. <u>Solicit</u> students' comments and questions concerning procedures for documenting the eye examinations.

Aids	Lesson Plan	Instructor Notes
 20 Minutes	**E. Practice**	<u>Instruct</u> students to practice in pairs. Each student will conduct a complete set of eye examinations on his or her partner.
	1. Preliminary eye exams a. Check for equal pupil size. b. Check for resting nystagmus.	Students then will "reverse roles". Tell the students to record their estimations of their partners' pupil sizes on the standard Drug Influence Evaluation Form.
	c. Assessment of tracking ability.	<u>Monitor</u>, coach and critique students' practice.
	d.. Initial estimation of Nystagmus onset angle.	<u>Make sure</u> each student administers a complete series of eye examinations at least once.
	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	<u>NOTE</u>: If possible, the training room should be at least somewhat darkened for this final stage of practice.
	4. Reporting out of Pupil Size estimations.	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

Aids	Lesson Plan	Instructor Notes
		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 <u>left eye</u> 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 <u>room light</u> 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 ocess for each of the other two lighting conditions.

Aids	Lesson Plan	Instructor Notes
	c. Direct light tabulation.	Make appropriate comments about the number of students whose pupils are outside the normal range of size under the various lighting levels.

Pupil Size	Room Light	Near Total Darkness	Direct Light
2.0 mm			
2.5 mm			
3.0 mm			
3.5 mm			
4.0 mm			
4.5 mm			
5.0 mm			
5.5 mm			
6.0 mm			
6.5 mm			
7.0 mm			
7.5 mm			
8.0 mm			

Session V

Eye Examinations

V-1

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**

Drug Evaluation & Classification Training V-2A

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**

Drug Evaluation & Classification Training V-2B

The Eye Examinations

Drug Evaluation & Classification Training V-3

Hippus

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

Drug Evaluation & Classification Training V-4

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.

Drug Evaluation & Classification Training V-5

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

Drug Evaluation & Classification Training V-6

First Clue: Lack of Smooth Pursuit

Drug Evaluation & Classification Training V-6A

Second Clue: Distinct and Sustained Nystagmus at Maximum Deviation

Drug Evaluation & Classification Training V-6B

Third Clue: Angle of Onset of Nystagmus

Drug Evaluation & Classification Training V-6C

Vertical Gaze Nystagmus

Drug Evaluation & Classification Training V-7

Lack of Convergence

Drug Evaluation & Classification Training V-8

Estimation of Pupil Size

Drug Evaluation & Classification Training

V-9

Sample Eye Examination

PUPIL SIZE	Room Light	Darkness	Direct	
Left Eye				
Right Eye				
HIPPUS ☐ Yes ☐ No	REBOUND DILATION ☐ Yes ☐ No		Reaction to Light	

Drug Evaluation & Classification Training

V-10

QUESTIONS?

Drug Evaluation & Classification Training

Two Hours

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

A. Body Systems

B. Body Systems and Body Functions Relevant to Drug Evaluations

C. How Drugs Work

D. Physiologic Signs and Symptoms of Drugs or Medical Impairment

E. Medical Conditions

F. Summary

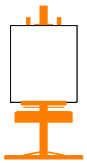
Learning Activities

- Instructor Led Presentations
- Reading Assignments

Aids	Lesson Plan	Instructor Notes
 5 Minutes	**PHYSIOLOGY AND DRUGS: AN OVERVIEW**	Total Lesson Time: Approximately 120 Minutes
 VI-1 (Title)		Display Session Title
 VI-2A&B (Session Objectives)		Briefly review the content, objectives and activities of this session.
	A. Introduction	
	1. Before we can understand how drugs work we must have a <u>basic</u> 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.	

Aids	Lesson Plan	Instructor Notes
 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
 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. a. The phrase "MURDERS, INC." helps us remember the names of the ten systems.	
 VI-5B (The Ten Systems)	b. Each letter stands for the name of one system.	Selectively reveal the systems as you discuss each of them.
	3. M stands for the MUSCULAR SYSTEM. a. The body has three different kinds of muscles. (1) the heart, or cardiac muscle.	<u>Point out</u> 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.

Aids	Lesson Plan	Instructor Notes
	(2) smooth muscles, which control the body's involuntary operations. (3) striated muscles, which carry out our voluntary movements.	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.
	b. All three types of muscles are examined at various stages of the drug influence evaluation.	
	4. U is for the URINARY SYSTEM. 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.	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.
	b. Kidneys filter waste or harmful products, such as drugs and their metabolites, from the blood, and dump these waste products into the bladder.	
	5. The first R in "MURDERS, INC." stands for the RESPIRATORY SYSTEM. a. The major parts of the Respiratory System are the lungs and the diaphragm.	
	b. The diaphragm is a smooth muscle that draws the air into the lungs and forces it out.	Point out that some drugs cause the user to breathe slowly and shallowly, while others cause rapid breathing.

Aids	Lesson Plan	Instructor Notes
	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.	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.
	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.	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.
	b. Hormones are complex chemicals that travel through the blood stream and that control or regulate certain body processes.	Print HORMONES on the dry erase board or flip-chart.

Aids	Lesson Plan	Instructor Notes
	c. Some drugs can mimic the effects of certain hormones, or can react with the hormones in ways that alter the hormones' effects.	
	8. The second R in "MURDERS, INC." stands for the REPRODUCTIVE SYSTEM.	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.
		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.
	9. S is for the SKELETAL SYSTEM.	
	a. Consists of bones, cartilage and ligaments.	
	b. The Skeletal System provides support to the body, permits movement, and forms blood cells.	
	10. The I in "INC" stands for the INTEGUMENTARY SYSTEM.	
	a. Consists of the skin, hair, finger and toe nails, and accessory structures.	Point out that DREs examine the skin for hypodermic injection sites, and for sweating, clamminess, and temperature.

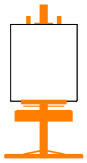
Aids	Lesson Plan	Instructor Notes
	b. The chief functions of the Integumentary System include protection of the body, control of body temperature, excretion of wastes (i.e. through the sweat) and sensory perception.	
	11. N is for the NERVOUS SYSTEM.	EMPHASIZE that the Nervous System is one of the most important components of physiology, as far as the drug influence evaluation is concerned.
	a. This system consists of the brain, the brain stem, the spinal cord and the nerves.	
	b. Nerves keep the brain informed of changes in the body's external and internal environments.	CLARIFICATION: Nerves carry messages to the brain from the sense organs (eyes, ears, nose, etc., and also from pain sensors).
	c. Nerves also carry messages from the brain to the body's muscles, tissues and organs.	CLARIFICATION: The brain uses nerves to send messages commanding the heart to beat, the fingers to move, the pupils to dilate, etc.
	d. The nervous system controls, coordinates and integrates all physiological processes, so that normal body functions can be maintained.	
	12. C is for the CIRCULATORY SYSTEM.	Point out that this is another very important component of physiology, as far as the drug influence evaluation is concerned.
	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.	

Aids	Lesson Plan	Instructor Notes
	b. Blood is the body's primary transport mechanism: it carries food, water, oxygen, hormones, antibodies, etc. to the body's tissues and organs.	
	c. Blood is also primarily responsible for carrying heat throughout the body.	
	d. And, blood is the main transport mechanism for bringing drugs to the brain.	
VI-5C (Interrelated Body Systems)	e. The heart, of course, pumps the blood, and causes it to circulate through the body.	Solicit students' comments and questions about "MURDERS, INC", 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.
	13. Homeostasis	<u>Homeostasis</u> is the dynamic balance, or steady state, involving levels of salts, water, sugars and other materials in the body's fluids.
	a. Human body is exposed to constantly changing <u>external</u> environment.	
VI-6 (Homeo-stasis)	b. Changes are neutralized by the <u>internal</u> 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 composi-tion of these fluids remains within very narrow limits.	

Aids	Lesson Plan	Instructor Notes
	e. This phenomenon is called homeostasis.	Point out that "homeo" means elements and "stasis" means balance. Point out that the rhythm of the heart, breathing, constancy of body temperature, and the steady level of blood pressure under specific circumstances or conditions are all manifestations of homeostatic mechanisms at work within the body. Drugs interfere with the homeostatic mechanisms and produce signs and symptoms that can be recognized by a trained DRE.
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.	
VI-7 (Basic Plan of Circulatory System)	b. Blood is driven into arteries, arteries divide into smaller and smaller branches and finally into meshwork of fine capillaries which pervade body tissues.	Point out that arteries constrict to aid distribution of blood.
	c. Meshwork joins up again to form small veins which become larger trunks as they travel centrally towards the heart.	Point out that blood does not come into direct contact with the cells, but rather stays in the blood vessels.

Aids	Lesson Plan	Instructor Notes
 VI-8 (Circulatory System)	d. There are two separate circulation systems: (1) A systemic circulation concerned with the body as a whole and driven by the left side of the heart. (2) A pulmonary circulation concerned with passage of blood through the lungs and driven by the right side of the heart.	
 VI-9 (Heart)	e. The heart is the pump and has two sides: (1) Left side pumps blood through the aorta and the arteries to the tissues. (2) Blood, after passing through the tissues, returns via the veins to the right side. (3) Right side pumps blood through the pulmonary artery to the lungs and returns it to the left side of the heart again via the four pulmonary veins.	Consists of the left atrium and ventricle. The upper chamber (atrium) receives blood from the great veins, the lower chamber discharges blood into the great arteries. Consists of the right atrium and ventricle. Note: The Pulmonary Artery is the only artery that carries <u>de-oxygenated</u> blood; all other arteries carry blood that has received fresh oxygen from the lungs. Likewise, the Pulmonary Vein is the only vein that carries blood <u>rich in oxygen</u>; all other veins carry blood depleted of oxygen back to the heart.

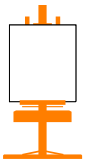
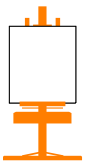
Aids	Lesson Plan	Instructor Notes
	f. The normal heart continues to beat regularly and continuously, with a rest interval never longer than a fraction of a second.	
	(1) Heart rate is the number of beats per minute.	Point out that heart rate is regulated by the autonomic nervous system: sympathetic nerve 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.
	(2) Pulse rate is the number of pulsations per minute.	For the DEC program, the normal range is 60-90 pulsation beats per minute. Point out that some people may exhibit <u>irregular</u> (or arrhythmic) heart beats, i.e. where the interval between pulses varies.
	(3) Blood pressure (BP) is the force of the blood circulating in the arteries.	
	(4) BP is categorized as systolic or diastolic BP.	Ask students to define "systolic" and "diastolic".
	(5) Systolic pressure is the maximum force that occurs during contraction.	
	(6) Diastolic pressure represents the minimum force that occurs when the heart relaxes.	Point out that physical conditioning can also affect blood pressure and pulse rate.

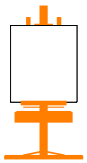
Aids	Lesson Plan	Instructor Notes
	(7) Both systolic and diastolic pressures are measured and is recorded as follows: 120 systolic 80 diastolic	Demonstrate proper method of recording on flip chart or dry-erase board. Point out that the normal range of BP varies widely based on a number of factors, including age. The normal range of systolic pressure is 120 to 140. The normal range of diastolic is 70 to 90.
	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.	
 VI-10 (Nerve Concept)	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.

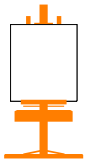
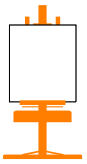
Aids	Lesson Plan	Instructor Notes
	(3) We can imagine messages running along the "wire segments" in much the same manner that electrical impulses run along telephone wires.	Point to a "wire segment".
	(4) When the message reaches the end of the "wire segment", it triggers the release of chemicals that flow across the gap, and contact the next "wire segment".	Point to the close up of the gap.
	(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.	
	(6) At that gap, the message again triggers the release of chemicals that flow across to the next "wire segment", and the process continues.	Point out that this concept of a nerve as a series of separated "wire segments" 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.
	c. In our simple model of nerves, each "wire segment" corresponds to a nerve cell, called a <u>neuron</u>.	
VI-11 (How a neurotransmitter works)	d. The chemical that flows across the gaps separating neurons is called a <u>neurotransmitter</u>.	CLARIFICATION: neurotransmitter are the body's <u>chemical messengers</u>.

Aids	Lesson Plan	Instructor Notes
	e. The body has a number of different neurotransmitter; each carries a different chemical message.	
 VI-12A (Nerve Cell)	f. Each neuron, or "wire segment" has three main parts: (1) the cell body. (2) the axon. (3) the dendrite.	
	g. The <u>axon</u> is the part of the neuron that sends out the neurotransmitter, or chemical messenger.	<u>Point out</u> that by using a baseball analogy, the Axon would be the "pitcher" of the neurotransmitter and the Dendrite is the "catcher" of the neurotransmitter.
	h. The dendrite is the part that receives the neurotransmitter.	
	i. The gap between two neurons is called a <u>synapse</u>, or <u>synaptic gap</u>.	Solicit students' questions about nerve cells (neurons).
 VI-12B (Classi-fication of Nerves)	3. Classifications of Nerves. a. Some nerves carry messages <u>away from</u> the brain, to the body's muscles and organs. (1) These are called <u>Motor</u>, or <u>Efferent</u> nerves. (2) The brain uses motor nerves to send commands to the heart to beat, the lungs to	

Aids	Lesson Plan	Instructor Notes
	breathe, the muscles to contract or expand, and so forth.	
	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.	Point out that, basically, this is how drugs work: they interfere with transmission or reception of the messages that travel along nerves.
VI-13 (Motor Nerves)	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.	

Aids	Lesson Plan	Instructor Notes
	(2) The autonomic nerves send messages to the muscles and organs that we do not consciously control, i.e. smooth muscle and cardiac muscle.	On the dry erase board or flip-chart print the word "autonomic", and draw two lines from the word one line angling down toward the left, the other angling down toward the right.
	f. The Autonomic Sub-system divides into two groups.	Write "Sympathetic" at the end of one line, "Parasympathetic" at the end of the other.
	(1) The Sympathetic nerves command the body to react in response to fear, stress, excitement, etc.	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)
	(2) Parasympathetic nerves carry messages that produce relaxed and tranquil activities.	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

Aids	Lesson Plan	Instructor Notes
	g. Certain neurotransmitter (i.e. chemical messengers) aid in the transmission of messages along sympathetic and parasympathetic nerves.	
	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.	
	i. Drugs that mimic the neurotransmitter associated with sympathetic nerves are called sympathomimetic drugs.	Write "Sympathomimetic" on the dry erase board or flip-chart.
	(1) Sympathomimetic drugs artificially cause the transmission of messages that produce elevated blood pressure, dilated pupils, etc.	Ask students to name a category of drugs that would be considered sympathomimetic.
	(2) Examples: CNS Stimulants, Hallucinogens, and to some extent PCP and Cannabis.	
	j. Drugs that mimic neurotransmitters associated with parasympathetic nerves are called para-sympathomimetic drugs.	Write "Parasympathomimetic" on the dry erase board or flip-chart.
	(1) Parasympathomimetic drugs artificially cause the transmission of messages	Ask students to name a drug category that would be con-

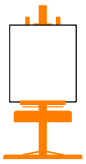
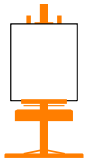
Aids	Lesson Plan	Instructor Notes
	that produce lowered blood pressure, drowsiness, etc. (2) Examples: Narcotic Analgesics and CNS Depressants.	sidered parasympathomimetic.
	4. Although there are more than 100 chemicals in the brain, only about two dozen probably are true neurotransmitters.	
	a. Among the primary neurotransmitters that have been identified are:	Write these neurotransmitter on the dry erase board or flip-chart.
	o Norepinephrine (also called Noradrenaline)	Point out that Norepinephrine is a <u>neurotransmitter</u> that produces effects on the body that are similar to the effects produced by Adrenaline (a <u>hormone</u>). Many neurotrans-mitter correspond to hormones that produce similar effects.
	o Acetylcholine	Acetylcholine plays a role in muscle control, and affects neuromuscular or myoneural junctions.
	o Dopamine	Dopamine plays a role in mood control and is used in treating Parkinson Disease.
	o Serotonin	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.
	o Gama Amino Butric Acid (Abbreviated GABA)	GABA inhibits various neuro-transmitter and also causes a release of growth hormones.
	o Endorphins and Enkephalins	These are the body's natural pain relievers.

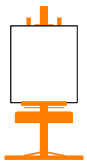
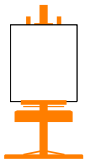
Aids	Lesson Plan	Instructor Notes
	b. There are many drugs that artificially induce the effects of neurotransmitter and hormones.	Solicit students' questions and comments about nerves and neurotransmitter.
30 Minutes	**D. How Drugs Work** 1. In very simple terms, drugs work by artificially creating natural body reactions generally associated with the work of neurotransmitters and hormones.	

Aids	Lesson Plan	Instructor Notes
	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.	Ask students: What drug do many people take to overcome artificially the drowsiness they feel in the morning?
	b. Large, abusive doses of drugs may produce greatly exaggerated simulations of the natural action of hormones and neurotransmitters, sometimes with disastrous results.	Example: Cocaine (a sympathomimetic drug) may artificially create a message commanding the heart to beat so rapidly that cardiac arrest 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.	Remind students that the body struggles to maintain homeostasis, the dynamic balance of salts, sugars and other substances.
	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.

Aids	Lesson Plan	Instructor Notes
	(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,

Aids	Lesson Plan	Instructor Notes
		but the natural CNS Stimulants the body produced to counteract the alcohol are still around.
	c. We call this situation <u>being on the "downside" of the drug</u>.	Write "Downside" on the dry erase board or flip-chart.
	(1) It is not uncommon for a DRE to encounter some-one on the "downside".	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.
	(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 <u>Downside</u>.
		<u>Point out</u> that persons on the "downside" can be dangerous when trying to operate a motor vehicle. <u>Point out</u> 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.
	3. Another interesting effect that drugs can produce is called <u>Negative Feedback</u>.	Write "Negative Feedback" on the dry erase board or flip-chart.

Aids	Lesson Plan	Instructor Notes
	a. By taking the drug, the person artificially simulates the action of certain hormones and/or neurotransmitters.	
	b. If the person continues to take the drug, the body may simply cease producing the natural chemicals that the drug simulates.	
	c. In effect, the body comes to rely on the drug to supply itself with those chemicals.	Write "The Body Quits Producing The Natural Chemicals" on the dry erase board or flip-chart.
VI-14 (Tolerance)	d. One result of this may be <u>increased tolerance</u> to the drug: since the body isn't producing its own natural chemicals, it can more easily stand the drug.	Write "Increased Tolerance" on the dry erase board or flip-chart. Emphasize: Habitual users of drugs may develop <u>tolerance</u> to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even <u>tolerant</u> drug users, when impaired, usually exhibit clinical evidence. (i.e. in the vital signs and eye signs - such as HGN)
	e. Example of <u>Negative Feedback</u>: 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.	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.

Aids	Lesson Plan	Instructor Notes
	f. Another result may be <u>physical dependence</u>, or addiction.	Write "Physical Dependence" on the dry erase board or flip-chart.
	4. Why do people take drugs?	Pose the questions to the class. Solicit responses.
	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 <u>only</u> achieve those feelings and moods if the drug is taken.	
	5. One final concept is important for an understanding of how drugs work.	Write "Metabolite" on the dry erase board or flip-chart.
	a. A <u>Metabolite</u> is a product of metabolism, the chemical changes that take place when the drug reacts with enzymes and other substances in the body.	<u>Instructor information</u>: 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: <u>anabolism</u>, the constructive phase, during which small molecules resulting from the digestive process are built up into com-

Aids	Lesson Plan	Instructor Notes
		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.	Example: When we drink alcohol, we initiate a series of chemical reactions that ultimately transform the alcohol into harmless carbon dioxide and water.
	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.	Solicit students' questions and comments about how drugs work.
15 Minutes	**E. Medical Conditions**	
VI-15A (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	Instructor Notes
	b. Conjunctivitis - inflamation 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, head-ache, 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.
VI-15B (Other Conditions)	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

Aids	Lesson Plan	Instructor Notes
		face or extremities, weakness, double vision, etc.
	f. Shock - a sudden or violent disturbance in the mental or emotional faculties.	A shock victim may be dazed, uncoordinated, non-responsive.
	g. Stroke - a medical condition caused by a rupture or obstruction (as by a clot) of an artery of the brain.	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.
	h. Others - Carbon Monoxide poisoning, Seizures, Endocrine disorders, Neurological conditions, Psychiatric conditions and infections.	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.
	2. Normal conditions can affect vital signs. a. Exercise b. Excitement c. Fear d. Anxiety e. Depression f. Other	
		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".

Aids	Lesson Plan	Instructor Notes
		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.
10 Minutes	**F. Summary**	
	1. Briefly review main points of the lesson. a. Basic understanding of how the body works is necessary to: o understand why the drug evaluation is conducted in a systematic manner.	Emphasize that research in drug intoxication and the interaction with neurotrans-mitters and neurohormones is in its infancy. There are many unknowns! This limited overview will not qualify students as medical specialists!
	o understand why the results, when viewed in their totality, provide reliable indicators of impairment within broad categories of drugs.	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

Aids	Lesson Plan	Instructor Notes
		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 ____."
	b. The body maintains homeostasis (equilibrium) by constantly adjusting to changes in the external and internal environment:	Point out that the body functions as a total unit in an integrated and coordinated manner.
	(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.	Point out that this is a very simplistic overview of how drugs work.
	(3) The effects of drugs can be detected and/or observed in the drug evaluation.	

Aids	Lesson Plan	Instructor Notes
	2. Drug Evaluations	
	a. Detailed instructions on procedures and expected results will be covered in following sessions.	Solicit and answer students' questions.
VI-16 (Physiological Pursuit)	3. Physiological Pursuit	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.

Session VI

Physiology and Drugs: An Overview

VI-1

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.)

Drug Evaluation & Classification Training VI-2A

Physiology and Drugs: An Overview (Continued)

- 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

Drug Evaluation & Classification Training VI-2B

Bodily Functions Examined During Drug Evaluation

- Central Nervous System
- Eyes
- Blood Pressure and Pulse
- Balance and Coordination
- Body Temperature

Drug Evaluation & Classification Training VI-3

Physiology:

The study of the functions of living organisms and their parts

Drug Evaluation & Classification Training VI-4

MURDERS, INC.

Drug Evaluation & Classification Training VI-5A

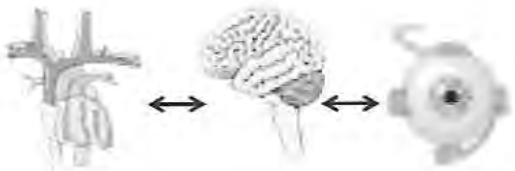
The Ten Systems of Human Physiology: *MURDERS, INC.*

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
I is for Integumentary System
N is for Nervous System*
C is for Circulatory System^

*For DRE officers, these are key systems

Drug Evaluation & Classification Training VI-5B

Interrelated Body Systems



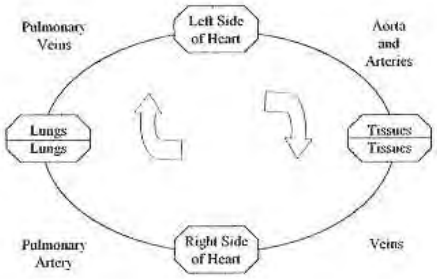
Drug Evaluation & Classification Training VI-5C

Homeostasis

Dynamic balance or steady state involving levels of salts, water, sugars and other material in the body's fluids

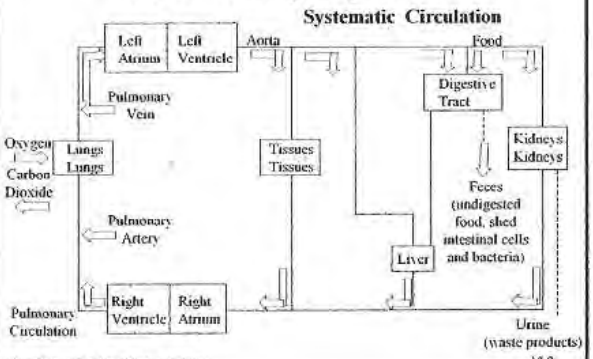
Drug Evaluation & Classification Training VI-6

Basic Plan of the Circulatory System



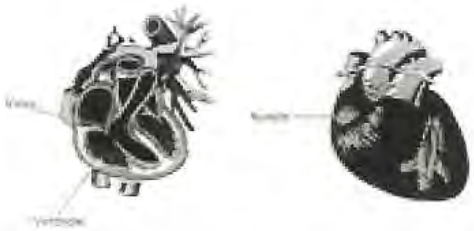
Drug Evaluation & Classification Training VI-7

Circulatory System



Drug Evaluation & Classification Training VI-8

The Heart



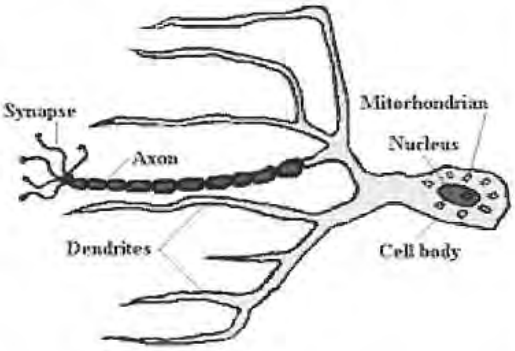
Drug Evaluation & Classification Training VI-9

A Simple Concept of a Nerve

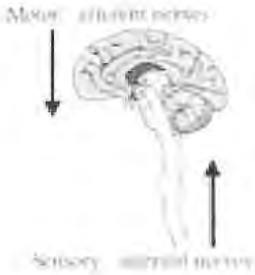
How a Neurotransmitter Works

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

Drug Evaluation & Classification Training VI-15A

Other Medical Conditions

- Shock
- Head Trauma
- Stroke

Drug Evaluation & Classification Training VI-15B

Physiological Pursuit

Drug Evaluation & Classification Training VI-16

QUESTIONS?

Drug Evaluation & Classification Training

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:

Questions	Score: Home	Score: Visitor
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

   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. <u>"No coaching from the audience."</u>

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 <u>away from</u> the brain? What do we call the nerves that carry messages <u>toward</u> 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.

Two Hours

SESSION VII

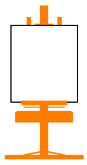
EXAMINATION OF VITAL SIGNS

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

Content Segments	Learning Activities
A. Purpose of the Examinations	o Instructor Led Presentations
B. Procedures and Cues	o Instructor Led Demonstrations
C. Demonstrations	o Audio Tape Presentation
D. Documentation Procedures	o Student Led Demonstrations
E. Practice	o Students' Hands On Practice
	o Reading Assignments

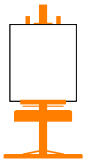
Aids	Lesson Plan	Instructor Notes
 5 Minutes	**EXAMINATIONS OF VITAL SIGNS**	Total Lesson Time: Approximately 120 Minutes
 VII-1 (Title)		Display Session Title
 VII-2A&B (Session Objectives)		Briefly review the content, objectives and activities of this session.
	A. Purposes of the Examinations	
	1. The vital signs that are relevant to the drug influence evaluation include:	
	a. Pulse rate b. Blood pressure c. Temperature	<u>Point out</u> these vital signs on the wall chart.
	2. Different types of drugs affect these vital signs in different ways.	
	a. Certain drugs tend to "speed up" the body and <u>elevate</u> these vital signs.	<u>Clarification</u> o pulse may quicken o blood pressure may rise o temperature may rise
	b. Other drugs tend to "slow down" the body and <u>lower</u> these vital signs.	<u>Clarification</u> o pulse may slow o blood pressure may drop o temperature may fall

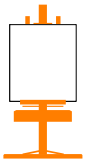
Aids	Lesson Plan	Instructor Notes
	3. Systematic examination of the vital signs gives us much useful information concerning the possible presence or absence of various categories of drugs.	
75 Minutes	**B. Procedures and Cues**	
	1. Measurement of pulse rate.	
VII-3 (Pulse Definitions)	a. <u>Pulse</u> is the expansion and relaxation of an artery generated by the pumping action of the heart.	
	b. <u>Pulse Rate</u> is the number of pulsations in an artery per minute.	<u>Point out</u> that pulse rate is equal to the number of contractions of the heart per minute.
	c. An <u>artery</u> is a strong, elastic blood vessel that carries blood <u>from the heart</u> to the body tissues.	<u>Instructor, for your information</u>: 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.
	d. A <u>vein</u> is a blood vessel that carries blood <u>back to the heart</u> from the body tissues.	

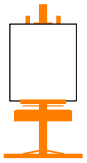
Aids	Lesson Plan	Instructor Notes
	e. When the heart contracts, it squeezes blood out of its chambers into the arteries.	
	f. The surging blood causes the arteries to expand.	
	g. By placing your fingers on the skin next to an artery and pressing down, you can feel the artery expand as the blood surges through.	Emphasize: The "surge" can be felt as the blood is squeezed from the heart through an artery. The pulse cannot be felt in a vein.
	h. By keeping your fingers on the artery and counting the number of pulses that occur in one minute, you will measure the pulse rate.	Demonstrate this, by holding your fingers on your own radial artery.
	i. Pulse is easy to measure, once you locate an artery close to the surface of the skin.	
VII-4 (Radial Artery)	j. One convenient pulse point involves the radial artery.	
	o 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.	Point to the radial artery pulse point on your own wrist.
	o Hold your left hand out, with the palm down.	Demonstrate this.
	o 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.	Demonstrate this.
	o Allow your left hand to curl downward.	Demonstrate this.

Aids	Lesson Plan	Instructor Notes
	o You should be able to feel the pulse in your radial artery.	Ask students whether they can feel their pulses. Coach any students who have difficulty in locating the pulse.
	k. Another pulse point involves the brachial artery.	
VII-5 (Brachial Artery)	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.	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.
	o Hold your left hand out, with the palm up.	Demonstrate this.
	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.	Demonstrate this.
	o You should be able to feel the pulse in your brachial artery.	Ask students whether they can feel their pulses. Coach any students who have difficulty locating the pulse.
	l. Another pulse point involves the carotid artery.	
	o The carotid artery can be located in the neck, on either side of the Adam's apple.	Point out the carotid artery pulse point on your own neck.
	o Place the tips of your right hand's index and middle fingers alongside the right side of your Adam's apple.	Demonstrate this.

Aids	Lesson Plan	Instructor Notes
	o You should be able to feel the pulse in your carotid artery.	Ask students whether they can feel their pulses. Coach any students who have difficulty locating the pulse.
	m. Basic do's and don'ts of measuring pulse.	Note, however, that there is wide variation in "normal" human pulse rate.
	o Don't use your thumb to apply pressure while measuring a subject's pulse.	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.
	o 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.	
	o When measuring the pulse rate, use time intervals of 30 seconds.	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.
VII-6 (Pulse Technical Terms)	n. Some technical terms associated with pulse rate: (1) Tachycardia: Abnormally rapid heart rate. (2) Bradycardia: Unusually slow heart rate. (3) Arrhythmia: Abnormal heart rhythm.	

Aids	Lesson Plan	Instructor Notes
	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.
 VII-7 (BP Definitions)	2. Measurement of blood pressure. 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.	POINT OUT that the "normal range" of pulse rate is 60-90 beats per minute.

Aids	Lesson Plan	Instructor Notes
	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.	Point out that 120 millimeters is approximately four and three-quarter inches.
	o We commonly abbreviate "millimeters of mercury" as mmHg.	Print "mmHg" on the dry erase board or flip-chart. Instructor, for your information: "Hg" is the chemical symbol for the element mercury. It comes from Hydrargyrum, the Latin word for mercury.
	b. Blood Pressure changes constantly as the heart contracts and relaxes.	
	c. Blood Pressure reaches its maximum as the heart contracts and sends the blood surging through the arteries. This is called the systolic pressure.	
	d. Blood Pressure reaches its minimum when the heart is fully expanded. This is called the diastolic pressure.	
	e. It is always necessary to measure and record both the systolic and diastolic blood pressure.	Remind students that "systolic" is the higher number, "diastolic" the lower number. Memory aid: Systolic: "S" for "Superior" Diastolic: "D" for "Down"
	f. The device used for measuring blood pressure is called a sphygmomanometer.	Exhibit a sphygmomanometer.

Aids	Lesson Plan	Instructor Notes
	g. The sphygmomanometer has a special cuff that can be wrapped around the subject's arm and inflated with air pressure.	Write "SPHYGMOMANOMETER" on the dry erase board or flip-chart.
		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. 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. Instruct the student to elevate the arm and squeeze the fist several times; explain that this helps to drain blood from the arm.
	h. As the pressure in the cuff increases, the cuff squeezes tightly on the arm.	Wrap the cuff around the student volunteer's arm and inflate it.
	i. When the pressure gets high enough, it will squeeze the artery completely shut.	Ask the student volunteer whether they can feel the pressure of the cuff.
	j. Blood will cease flowing through the brachial artery. And, since the brachial artery "feeds" the radial artery, blood will also cease flowing through the radial artery.	Ask students: "What artery is located in the crease of the elbow?" (Point to that location on the student volunteer's arm).
	k. If we slowly release the air in the cuff, the pressure on the arm and on the artery will start to drop.	Release the pressure in the cuff on the student volunteer's arm.

Aids	Lesson Plan	Instructor Notes
	l. Eventually, the pressure will drop enough so that blood will once again start to flow through the artery. o Blood will start flowing in the artery once the pressure inside the artery equals the pressure outside the artery. o The two pressures will become equal when the air pressure in the cuff drops down to the systolic pressure. o When that happens, blood will spurt through the artery each time the heart contracts.	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?"
	o Once the air pressure in the cuff drops down to the diastolic level, the blood will flow continuously through the artery.	

Aids	Lesson Plan	Instructor Notes
	m. Overview of procedures for measuring blood pressure.	
VII-8 (Basics of BP)	o Apply enough air pressure to the cuff to cut off the flow of blood through the artery.	Demonstrate, using the student-volunteer (apply pressure to the cuff).
	o Slowly release the air pressure until the blood just begins to spurt through the artery: that level will be the systolic pressure.	Slowly release the pressure in the cuff.
	o Continue to release the air pressure until the blood flows continuously through the artery: that level will be the diastolic pressure.	
		Ask students: (1) "How can we tell when the blood starts to spurt through the artery?" (2) "How can we tell when the blood is flowing continuously through the artery?"
	n. We can listen to the spurting blood, using a stethoscope.	Exhibit a stethoscope.
	o Apply the stethoscope to the skin directly above the artery.	Demonstrate, using the student volunteer.
	o Apply pressure to the cuff, enough to cut off the flow of blood.	Inflate the cuff on the student volunteer's arm.

Aids	Lesson Plan	Instructor Notes
	o When no blood is flowing through the artery, we hear <u>nothing</u> through the stethoscope.	
	o Slowly release the air from the cuff, letting the pressure start to drop.	<u>Release</u> the air in the cuff.
	o When we drop to the systolic pressure, we start to hear a <u>spurting</u> sound.	<u>NOTE</u>: This begins as a clear, tapping sound.
	o As we continue to allow the air pressure to drop, the surges of blood become steadily longer.	<u>NOTE</u>: The sounds take on a swishing quality, and become fainter.
	o When we drop to the diastolic pressure, the blood flows steadily and all sounds cease.	Excuse the student volunteer and thank them for participating.
VII-9 (Korotkoff Sounds)	o. The sounds that we listen to are called <u>Korotkoff Sounds</u>. They are divided into 5 phases.	
	o Phase 1 - the first appearance of clear, tapping sounds that gradually increase in intensity.	<u>Point out</u> that the beginning of Phase 1 corresponds to the systolic pressure.
	o Phase 2 - the sounds change to a murmur and take on a swishing quality.	

Aids	Lesson Plan	Instructor Notes
	o Phase 3 - the sounds develop a loud, knocking quality (not quite as clear as the Phase 1 sounds).	
	o Phase 4 - the sounds become muffled and again have a faint swishing quality.	
	o Phase 5 - the sounds cease.	Point out that the beginning of Phase 5 corresponds to the diastolic pressure.
VII-10 (Sphygmom-anometer)	q. Familiarization with the sphygmomanometer.	Hand out stethoscopes and sphygmomanometers (one per each student is desirable. At a minimum, there should be one for every four students).
	o The compression cuff contains an inflatable rubber bladder.	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.
	o A tube connects the bladder to the manometer, or pressure gauge.	Clarification: The manometer displays the air pressure inside the bladder. In the DEC program, we use an aneroid (without fluid) pressure gauge.
	o Another tube connects the bladder to the pressure bulb, which can be squeezed to inflate the bladder.	
	o The pressure control valve permits inflation	

Aids	Lesson Plan	Instructor Notes
	of the bladder and regulates the rate at which the bladder is deflated. • To <u>inflate</u> the bladder, the pressure control valve must be twisted all the way to the right. • When the valve is twisted all the way to the right, air can be pumped <u>into</u> the bladder, but no air can escape <u>from</u> the bladder. • To <u>deflate</u> the bladder, twist the valve to the left. • The more the valve is twisted to the left, the faster the bladder will deflate.	<u>Demonstrate</u> this.
  VII-11A&B (Details of BP)	r. Details of blood pressure measurement. 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 <u>louder</u>. o The manometer (pressure gauge) may be clipped on the subject's sleeve, so that it is readily viewable.	<u>Select</u> a student to serve as a blood pressure subject. Demonstrate the procedures using the student.

Aids	Lesson Plan	Instructor Notes
	o Twist the pressure control valve all the way to the right.	
	o Put the stethoscope earpieces in your ears.	Make sure the earpieces are turned forward, i.e. toward the nose.
	o Place the diaphragm or bell of the stethoscope over the brachial artery.	
	o Rapidly inflate the bladder to a pressure of at least 180.	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 Twist the pressure control valve slightly to the left to release the pressure slowly.	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. 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 Keep your eyes on the gauge and listen for the Korotkoff sounds.	Point out that the needle on the pressure gauge generally will "bounce" slightly when blood starts to spurt through the artery. Excuse the student and thank him or her for participating. Solicit students' questions concerning these procedures.

Aids	Lesson Plan	Instructor Notes
		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. o Hold the bell of the stethoscope with your fingers; don't slide it under the cuff: that will distort the measurement.	
 VII-12 (BP Technical Terms)	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.

Aids	Lesson Plan	Instructor Notes
		Monitor, coach and critique the students' practice. Allow this practice to continue for only about 10 minutes.
	3. Measurement of temperature.	
	a. Body temperature is measured using an oral thermometer.	Note: A digital thermometer with plastic sleeves is recommended. Exhibit this. 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.
	b. Make sure that a fresh disposable mouthpiece is used each time.	Solicit students' comments and questions concerning this overview of procedures and cues.
	C. Demonstrations	
15 Minutes	1. Pulse rate measurement demonstrations.	Select two students to come before the class.
	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.	Instruct the second student to measure the first student's pulse using the carotid artery pulse point. (Simultaneously,

		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.
5 Minutes	**D. Documentation Procedures**	Review the sections of the Standardized Form used to record vital signs measurements.
20 Minutes	**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

VII-1

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**

Drug Evaluation & Classification Training VII-2A

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**

Drug Evaluation & Classification Training VII-2B

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**

Drug Evaluation & Classification Training VII-3

Radial Artery Pulse Point

Drug Evaluation & Classification Training VII-4

Brachial Artery Pulse Point

Drug Evaluation & Classification Training VII-5

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

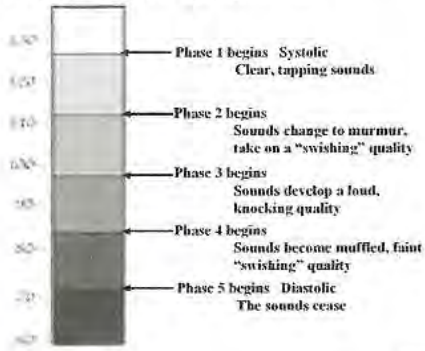
- **Diastolic Pressure**

  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: <u>that will be the systolic pressure</u>
- Continue to release the air until the blood flows continuously: <u>that will be the diastolic pressure</u>

Korotkoff Sounds



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

Drug Evaluation & Classification Training VII-11B

Technical Terms Associated With Blood Pressure

- **Hypertension**
  Abnormally high blood pressure
- **Hypotension**
  Abnormally low blood pressure

Drug Evaluation & Classification Training VII-12

QUESTIONS?

Drug Evaluation & Classification Training

One Hour and Forty-Five Minutes

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.

Content Segments	Learning Activities
A. Live Demonstrations	o Instructor Led Presentations
B. Video Demonstrations	o Instructor Led Demonstrations
	o Video Presentations
	o Reading Assignments

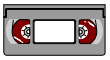
Aids	Lesson Plan	Instructor Notes
70 Minutes	**DEMONSTRATIONS OF THE EVALUATION SEQUENCE**	Total Lesson Time: Approximately 105 Minutes Display Session Title
 VIII-1 (Title)		
 VIII-2 (Objective)		<u>Briefly</u> review the objective, content and activities of this session.
	A. Live Demonstrations	For these live demonstrations, students must be grouped into teams of not more than 12 members. Each team must be taken to a separate classroom. At least two instructors must work with each team. This is to ensure that all students have the opportunity for a close and detailed observation of the demonstrations. <u>NOTE</u>: Instructors should conduct at least two <u>complete</u> demonstrations of the evaluation sequence, articulating each step in the process. <u>Instruct</u> students to follow along with copies of the report form. Handout 12-step checklists to the students if needed.

Aids	Lesson Plan	Instructor Notes
	1. Preliminary Examination. a. Preliminary eye checks o equal tracking o equal pupil size o resting nystagmus o blindness o eyelids o initial check for nystagmus	Select a student <u>or one of the volunteer drinkers for Session XII (prior to drinking)</u> to serve as the "subject" for the preliminary examination. <u>Ask</u> each question, exactly as it should be asked during an actual preliminary examination. <u>Explain</u> the kinds of clues and evidence that may be gleaned during the preliminary examination.
	b. First measurement of pulse rate.	<u>Check</u> the student subject's eyes for tracking, equal pupil size, resting nystagmus, eyelids. <u>Conduct</u> a check of the student subject's pulse. <u>Solicit</u> students' comments or questions about the preliminary examination. Excuse the student subject and thank him/her for participating in the demonstration.
	2. Eye Examinations (Room Light). a. Horizontal Gaze Nystagmus b. Vertical Gaze Nystagmus c. Lack of Convergence	Select another student <u>or a volunteer drinker</u> to serve as the "subject" for the eye examinations. <u>Conduct</u> a complete demonstration of an eye examination. <u>Explain</u> the kinds of clues and other evidence that may be seen during the eye examinations.

Aids	Lesson Plan	Instructor Notes
		Solicit students' comments or questions about the eye examinations. Excuse the student subject and thank him or her for participating in the demonstration.
	3. Psychophysical Tests. a. Romberg Balance b. Walk and Turn c. One Leg Stand d. Finger to Nose	Select another student or a volunteer drinker to serve as the "subject" for the psychophysical tests. Conduct a complete set of psychophysical tests on the student subject. Explain the kinds of clues and other evidence that may be gleaned during the psychophysical tests. Solicit students' comments or questions about the psychophysical tests. Excuse the student subject and thank them for participating in the demonstration.
	4. Vital Signs Examinations. a. Blood Pressure b. Temperature c. Second Check of Pulse	Select another student to serve as the "subject" for the vital signs examination. Conduct a complete set of vital signs examinations on the student subject. Explain the kinds of clues and other evidence that may be gleaned during the vital signs examinations.

Aids	Lesson Plan	Instructor Notes
		Solicit students' comments or questions about the vital signs examination. Excuse the student subject, and thank them participating in the demonstration.
	5. Dark Room Examinations.	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.
	a. Pupil Size Examinations o room light o darkness o direct light	Conduct a complete set of "dark room" examinations on the student subject.
	b. Reaction to Light c. Check of Nasal Area d. Check of Oral Cavity	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.

Aids	Lesson Plan	Instructor Notes
		Excuse the student subject and thank them for participating in the demonstration.
	6. Examination for Muscle Tone and Injection Sites; Third Check of Pulse.	Select another student to serve as the "subject" 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.
	7. Final Interview. a. Statements made by subject b. Behavior during entire evaluation	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.

Aids	Lesson Plan	Instructor Notes
	8. Opinions of Evaluator.	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.
 25 Minutes	**B. Review of the 12-Step Process (Video)**	

Session VIII

Demonstrations of the Evaluation Sequence

VIII-1

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

Drug Evaluation & Classification Training

VIII-2

QUESTIONS?

Drug Evaluation & Classification Training

One Hour and Forty-Five Minutes

SESSION IX

CENTRAL NERVOUS SYSTEM DEPRESSANTS

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.
- Describe the symptoms, observable signs and other effects associated with this category.
- Explain 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.

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. Onset and Duration of Effects	o Reading Assignments
D. Overdose Signs and Symptoms	o Video Presentations
E. Expected Results of the Evaluation	o Slide Presentations

Aids	Lesson Plan	Instructor Notes
 20 Minutes	**CENTRAL NERVOUS SYSTEM DEPRESSANTS**	Total Lesson Time: Approximately 105 Minutes
 IX-1 (Title)		Display Session Title
 IX-2A-C (Objectives)		<u>Briefly</u> review the objectives, content and activities of this session.
	A. Overview of the Category.	
	1. Central Nervous System Depressants slow down the operations of the brain.	Point out that other common names for CNS Depressants are "downers" and "sedative-hypnotics".
	a. Depressants first affect those areas of the brain that control a person's conscious, voluntary actions.	Judgment, inhibitions and reaction time are some of the things that CNS Depressants affect first.
	b. As the dose is increased, depressants begin to affect the parts of the brain that control the body's automatic processes. o heartbeat o respiration o etc.	
	2. The CNS depressant category includes the single most commonly abused drug in America.	<u>Ask</u> this question: "What is the single most commonly abused drug?"

Aids	Lesson Plan	Instructor Notes
 IX-3 (Alcohol The Most Familiar CNS Depressant)	a. Alcohol has been used and abused since prehistoric times. b. Alcohol and its effects are familiar to most people.	
	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.	Point out that the remainder of this session will focus on the non-alcohol CNS depressants.
	3. Non-Alcohol CNS depressants have been around for more than 150 years.	
 IX-4 (Chloral Hydrate)	a. The first non-alcohol CNS depressant was Chloral Hydrate.	
	b. It was developed in 1832.	Chloral Hydrate was derived from alcohol.
	c. It is commonly referred to as "Mickey Finn" or "Knockout drops" because of its fast acting effects.	Clarification: "Mickey Finn" was a well known British prizefighter of the 19th Century.
	d. Chloral Hydrate is still produced and prescribed today.	"Felsule" and "Noctec" are two registered brand names of Chloral Hydrate.
	4. There are six major subcategories of CNS depressants other than alcohol.	
 IX-5 (Types of Non-Alcohol Depressants)	a. Barbiturates o derivatives of Barbiturate Acid	More than 250 different barbiturates have been produced. Of these, about 50 have been accepted for medical use.

Aids	Lesson Plan	Instructor Notes
	o first produced in 1864 o in very common use and abuse today	
	b. Non-Barbiturates o synthetic compounds with a variety of chemical structures	<u>Note</u>: Chloral Hydrate belongs to the non-barbiturate subcategory.
	o avoid some of the undesirable side effects of barbiturates	i.e. sleepiness or drowsiness
	o still produce physical and psychological dependence.	
	c. Anti-Anxiety Tranquilizers o first produced in 1950 o in very wide spread use o 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"	<u>Point out</u> that it is not a contradiction to call one sub-category of CNS Depressants the <u>Anti</u>-depressants. It is <u>psychological</u> 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	<u>Point out</u> that the anti-psychotic tranquilizers are generally more powerful than the anti-anxiety tranquilizers.
	o sometimes called the "major tranquilizers"	The most familiar Anti-Psychotic Tranquilizer is "Thorazine".

Aids	Lesson Plan	Instructor Notes
	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.	
	f. Combinations of the other five subcategories.	
	5. Examples of specific common CNS Depressants.	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.
 IX-6A (Barb's)	a. The Barbiturates o Amobarbital (Trade name "Amytal") (Street names "blues"; "blue heavens")	
	o Amosecobarbital (Trade name "Tuinal") (Street names "rainbows"; "Christmas trees")	Note: this is a combination of Amobarbital and Secobarbital.
	o Pentobarbital (Trade name "Nembutal") (Street names "yellows"; "yellow jackets")	

Aids	Lesson Plan	Instructor Notes
	o <u>Phenobarbital</u> (Many trade names) (Street name "pink ladies")	According to the "Physician's Guide to Psychoactive Drugs", 1 ounce of 80-proof alcohol is equivalent to about 15 milligrams of Phenobarbital.
	o <u>Secobarbital</u> (Trade name "Seconal") (Street names "reds"; "red devils"; "RDs"; "fender benders"; "F-40s")	
		<u>If available</u>: display slides of these various drugs.
 IX-6B (Non-Barb's)	b. The Non-Barbiturates o <u>Carisoprodol</u> (Trade name "Soma")	Point out that primary medical use for the Non-Barbiturates is the treatment of insomnia.
	o <u>Chloral Hydrate</u> (Trade names "Felsule"; "Noctec") (Street names "Knock out drops"; "Mickey Finn")	<u>Note</u>: the absence of street names implies only that <u>illicitly</u> manufactured versions of these drugs are not common. The <u>legally</u> manufactured versions are abused, however.
	o <u>Diphenhydramine Hydrochloride</u> (Trade names "Benadryl"; "Sominex", "Dramamine")	
	o <u>Diphenhylhydantoin Sodium</u> (Trade name "Dilantin")	
	o <u>Ethchlorvynol</u> (Trade name "Placidyl")	
	o <u>Gamma-Hydroxybutyrate</u> (Street name "GHB", "GBL", "Liquid X", 1,4	

Aids	Lesson Plan	Instructor Notes
	Butanediol)	
	o Glutethimide (Trade name "Doriden")	
	o Methaqualone (Trade names "Parest"; "Quaalude"; "Sopor"' "Optimil"; "Mandrax") (Street name "ludes")	Note: Methaqualone continues to be pharmaceutically manufactured in Mexico, trade name "Mandrax".
	o Methyprylon (Trade Name "Noludar")	
	o Paraldehyde (Trade name "Paral")	
	o Zolpidem (Trade names: "Ambien", "Zaleplon"	If available: display slides of these various drugs.
IX-6C (Anti-Anxiety)	c. The Anti-Anxiety Tranquilizers	
	o Alprazolam (Trade name "Xanax")	
	o Clonazepam (Trade name "Klonopin")	Point out that tens of millions of prescriptions for these anti-anxiety tranquilizers are written in America each year.
	o Chlordiazepoxide (Trade name "Librium")	
	o Diazepam (Trade name "Valium")	
	o Estazolam (Trade name "ProSom")	
	o Flunitrazepam (Trade name "Rohypnol")	

Aids	Lesson Plan	Instructor Notes
	(Street Name “Roofies”, “Roches”)	
	o Flurazepam (Trade name "Dalmane")	If available: display slides of these various drugs.
	o Lorazepam (Trade name "Ativan")	
	o Meprobamate (Trade names: “Miltown”, “Equanil”	
	o Oxazepam (Trade name "Serax")	
	o Temazepam (Trade name "Restoril")	
	o Triazolam (Trade name "Halcion")	
IX-6D (Anti-depressants)	d. The Anti-Depressants	
	o Amitriptyline Hydrochloride (Trade names "Elavil"; "Endep")	
	o Bupropion (Trade name: “Wellbutrin”)	
	o Citalopram (Trade name: “Celexa”)	
	o Desipramine Hydrochloride (Trade names "Nor-pramin"; "Pertofrane")	

Aids	Lesson Plan	Instructor Notes
	o Doxepin Hydrochloride (Trade names "Adapin"; "Sinequan")	
	o Escitalopram (Trade name: “Lexapro”)	
	o Fluoxetine (Trade names "Prozac", “Sarafem”)	Prozac generally does not have psychoactive properties in therapeutic doses.
	o Imipramine (Trade name "Tofranil")	
	o Paroxetine (Trade name: “Paxil”)	
	o Phenelzine Sulfate (Trade name "Nardil")	
	o Sertraline (Trade name: “Zoloft”)	
	o Venlafaxine (Trade name “Effexor”)	
IX-6E (Anti-Psychotic)	e. The Anti-Psychotic Tranquilizers	
	o Chlorpromazine (Trade name "Thorazine")	
	o Droperidol (Trade name "Inapsine")	
	o Lithium Carbonate (Trade name "Lithane")	
	o Lithium Citrate	
	o Haloperidol (Trade name "Haldol")	

Aids	Lesson Plan	Instructor Notes
 IX-6F (Combos)	f. The Combinations o Chlordiazepoxide in combination with Amitriptyline (Trade name "Limbitrol")	Point out that "Limbitrol" is a combination of an Anti-Anxiety Tranquilizer and an Anti-Depressant.
	o Chlordiazepoxide Hydrochloride in combination with Clidinium Bromide (Trade name "Librax")	Point out that “Librax” is a combination of a benzodiazepine and an anti-spasmodic, used to relax the muscles in the stomach wall.
	o Perphenazine in combination with Amitriptyline Hydrochloride (Trade names "Triavil" and “Etrafon”)	Point out that "Triavil" is a combination of an Anti-Psychotic Tranquilizer and an Anti-Depressant.
 IX-7 **(**Methods of Ingestion)	6. Methods of ingestion of CNS Depressants. a. Most common and easiest method is orally.	
	b. Some abusers prefer to use intravenous injection for Barbiturates.	
	c. Some abusers experience a "flash" or "rush" from intravenous injection of Barbiturates, that they do not experience from oral ingestion.	
	d. The injection paraphernalia used for Barbiturates are very similar to those used	Examples: o spoon, for heating and dissolving the barbiturate

Aids	Lesson Plan	Instructor Notes
	for Heroin.	o cotton, for filtering the solution when drawing it into the needle. o hypodermic syringe o tourniquet
	e. However, the Barbiturate abuser will use a larger hypodermic needle, because the barbiturate solution is thicker than the heroin solution. f. The injection sites on the skin of a Barbiturate abuser appear quite different from those of an Heroin addict.	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.
	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. <u>Necrosis</u> may occur: i.e. a decaying of the body's tissue at the injection site.	<u>If available</u>, display a slide showing ulcerated injection sites.
	i. The dead tissue may begin to separate from the living tissue, producing ulcerations.	<u>Point out</u> that these ulcerations resemble burns placed on the skin by the tip of a cigarette.
	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
	forearm, and will commonly exhibit the characteristic swellings at random locations on the extremities.	Solicit students' questions and comments about the overview of CNS depressants.
5 Minutes	**B. Possible Effects**	
IX-8 (Possible Effects**)**	1. CNS Depressants produce impairments of the human mind and body that essentially mirror alcohol impairment.	Point out that these effects will not necessarily appear in a predictable sequence as dose increases.
	a. reduced social inhibitions	
	b. divided attention impairment	Clarification: impede the person's ability to concentrate on more than one thing at a time.
	c. slowed reflexes	
	d. impaired judgment and concentration	
	e. impaired vision	Elaboration: ability to focus eyes may be impaired; "double vision" may develop.
	f. lack of coordination	
	g. slurred, mumbled, or incoherent speech	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.
	h. produce a variety of emotional effects, such as euphoria, depression, suicidal	

Aids	Lesson Plan	Instructor Notes
	tendencies, laughing or crying without provocation, etc.	
	2. Generally speaking, a person under the influence of CNS Depressants will look and act drunk.	Solicit students' questions and comments concerning possible effects of CNS depressants.
15 Minutes	**C. Onset and Duration of Effects**	
IX-9 (Onset and Duration)	1. Depressant drugs can be grouped loosely into four classes, based on how quickly they take effect and how long their effects last.	Selectively reveal.
	a. <u>Ultrashort</u>: very fast acting, very brief effects.	
	o take effect in a matter of seconds.	
	o effects last only a few minutes.	
	o very rarely are the "drugs of choice" for drug abusers.	<u>Ask</u> students: "Why is there little or no street abuse of the <u>ultrashort</u> CNS depressants"? Solicit responses. Guide respondents to bring out the point that abusers seek drugs that will produce reasonably long lasting effects. Effects that last for only a few minutes aren't attractive or satisfying to most drug abusers.

Aids	Lesson Plan	Instructor Notes
	o ultra short depressants are sometimes used at the beginning of a surgical operation, in conjunction with an inhaled anesthetic.	Clarification: to provide a momentary sedation to ease the patient's anxiety and allow for the proper administration of the anesthetic.
	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.	
	o common example of an ultra short depressant is Thiopental, brand name "Pentothal".	Point out that this is sometimes called "truth serum".
	b. Short: fairly fast acting, effects last for several hours.	
	o generally take effect in 10-15 minutes.	
	o effects last for approximately 4 hours.	
	o this is the most commonly abused class of CNS Depressants.	Point out that short acting depressants are attractive to many drug abusers because: o they produce effects reasonably quickly. o the effects last long enough to "enjoy". o the effects don't last so long that the user is in a prolonged state of impairment.

Aids	Lesson Plan	Instructor Notes
	o short acting Depressants frequently are prescribed as a treatment for insomnia.	
	o they also may be used as a pre-anesthetic medication to calm a patient prior to surgery.	
	o common example of a short acting Depressant: Secobarbital, brand name "Seconal".	
	c. Intermediate: relatively slow acting, but prolonged effects.	
	o generally take effect in about 30 minutes.	
	o effects typically last about 6-8 hours.	
	o fairly often abused, especially by users who desire a longer lasting state of intoxication.	
	o medical use of this class of drugs is similar to that of short acting Depressants. (i.e. treat insomnia, etc.)	
	o common example of an intermediate Depressant: Amobarbital, brand name "Amytal", "Tuinal".	"Tuinal" i.e. two-in-all, is in between short and intermediate depressants.
	o a popularly abused drug is Amobarbital in combination with Secobarbital.	Point out that Tuinal is a combination of a fast acting drug (10-20 minutes onset, due to the Seconal) with prolonged

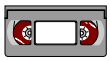
Aids	Lesson Plan	Instructor Notes
		effects (up to 8 hours, due to the Amytal).
	d. Long: delayed but long lasting effects.	
	o generally take effect about one hour after ingestion.	
	o effects typically last 8-14 hours.	
	o generally not the "drugs of choice" for abusers.	Ask students: "Why don't drug abusers usually prefer the long acting depressants?"
	o however, some people will abuse the long acting Depressants if the more popular short and intermediate types are not readily available.	Solicit students' questions and comments about the overview of CNS depressants.
	o long acting depressants are used medically in the control of epilepsy and of other conditions that can cause convulsions.	
	o they can also be used to provide continuing sedation to patients suffering from extreme anxiety.	
	o example of a long acting Depressant: Barbital, brand name "Veronal".	Barbital, also marketed under the name of Veronal, was the first commercially marketed barbiturate used as a sleeping aid.

Aids	Lesson Plan	Instructor Notes
	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.
 IX-10 (Short - Intermediate Depressants)	3. Other examples of short to intermediate Depressants.	
	a. Barbiturates o Seconal ("reds") o Nembutal ("yellows") o Tuinal ("rainbows") o Amytal ("blues") b. Non-barbiturates o Noctec or Felsule ("Mickey Finn") o Doriden o Noludar	Point out that these are frequently abused CNS depressants, but they are not the only depressants that are abused.

Aids	Lesson Plan	Instructor Notes
	o Quaalude ("Ludes") o Placidyl o Equanil or Miltown o Soma o Gamma-Hydroxybutyrate (GHB) o Zolpridem	
	c. Anti-anxiety tranquilizers o Valium o Librium o Xanax o Serax o Klonopin o Ativan o Rohypnopl	Point out that Rohypnopl is currently not legally manufactured in the United States and is illegal to posses. However, it is legally manufactured and prescribed in other countries. Along with GHB, it is known as one of the "date rape" drugs.
5 Minutes	**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	Lesson Plan	Instructor Notes
	a. A sufficiently high dose of CNS Depressant will suppress the portions of the brain that control respiration.	
	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.	
	c. With other Depressants, it is relatively easy to take a fatal overdose.	Point out that CNS depressants are often used as a means of suicide.
	3. Another major danger with CNS Depressants occurs when they are combined with alcohol.	
	a. There is at least an additive effect when alcohol and another Depressant are taken together.	
	b. With many CNS Depressants, there may be a more than additive effect.	Clarification: 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.
	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.	
	d. It is not possible to predict how great an effect will occur when Alcohol is mixed with another Depressant.	
	e. However, it is clear that the combination is always risky.	Solicit students' questions and comments concerning overdoses of CNS depressants.

Aids	Lesson Plan	Instructor Notes
●	**E. Expected Results of the Evaluation**	
60 Minutes		
IX-11A (Eval of Suspects)	1. Observable evidence of impairment.	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.
	o Horizontal Gaze Nytagmus will be present with suspects under the influence of CNS Depressants.	
	o Vertical Gaze Nystagmus <u>may</u> be present, with high doses, of Depressants for that individual.	
IX-11B (Vital Signs Exam)	o Performance on Romberg, Walk and Turn, One Leg Stand, and Finger to Nose tests will be similar to that of suspects impaired by alcohol.	<u>Point out</u> that subject's perception of time (on Romberg) may be slowed, i.e. may estimate "30 seconds" after more than 30 seconds have elapsed.
	o blood pressure will be down	
	o pulse will be down	
	o body temperature generally will be normal	<u>Possible exceptions</u>: Methaqualone and alcohol may cause the pulse to be <u>increased</u>.

Aids	Lesson Plan	Instructor Notes
 IX-11C (Darkroom)	o pupil size generally will be normal o pupillary reaction to light will be slowed	Exception: Methaqualone or Soma usually will cause pupils to dilate.
 IX-11D (General Indicators**)**	b. General indicators o disoriented o droopy eyes (ptosis) o drowsiness o drunk-like behavior o flaccid muscle tone o gait ataxia o slow, slugglish reactions o thick, slurred speech o uncoordinated	Note: speech may also be incoherent. Analogy: drunken behavior without the odor of alcoholic beverages. But remind students: suspects may have consumed alcohol and some other CNS depressant. Hence, odor of alcoholic beverage may also be present.
	3. Summary	
	4. Demonstrations a. Video demonstrations	Show video of subject(s) under the influence of CNS Depressants. Relate behaviors and observations to the CNS Depressant Symptomatology Chart.

Aids	Lesson Plan	Instructor Notes
 IX-12 **(**Depressant Symptoma-tology Chart)	b. Drug Evaluation and Classification Exemplar Demonstrations	Refer students to the exemplars found at the end of section IX of their student manuals. 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

IX-1

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

Drug Evaluation & Classification Training IX-2A

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

Drug Evaluation & Classification Training IX-2B

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

Drug Evaluation & Classification Training IX-2C

Alcohol - The Most Familiar CNS Depressant

Drug Evaluation & Classification Training IX-3

Chloral Hydrate ("Mickey Finn")

The first non-alcohol CNS depressant

Drug Evaluation & Classification Training IX-4

Major Types of Non-Alcohol CNS Depressants

- Barbiturates
- Non-Barbiturates
- Anti-Anxiety Tranquilizers
- Anti-Depressants
- Anti-Psychotic Tranquilizers
- Combinations

Drug Evaluation & Classification Training IX-5

Specific Barbiturates Examples

Drug	Brand Name	Street Names
Amobarbital	Amytal	Blues, Blue Heavens
Amosecobarbital	Tuinal	Rainbows, Christmas Trees
Pentobarbital	Nembutal	Yellows, Yellow Jackets
Phenobarbital	Luminal	Pink Ladies
Secobarbital	Seconal	Reds, Red Devils, RDs, Fender Benders, F-40's

Drug Evaluation & Classification Training IX-6A

Specific Non-Barbiturates Examples

DRUG	BRAND NAMES	STREET NAMES
Carisoprodol	Soma	
Chloral hydrate	Felsule, Noctec	Knock Out Drops, Mickey Finn
Diphenhydramine Hydrochloride	Benadryl, Sominex	
Diphenhydantoin Sodium	Dilantin	
Ethclorvynol	Placidyl	
Gamma Hydroxybutyrate		GHB, Liquid X
Glutethimide	Doriden	
Methyprylon	Noludar	
Methaqualone	Parest, Quaalude, Sopor, Optimil, Mandrax	Ludes
Paraldehyde	Paral	
Zolpidem	Ambien, Zaleplon	

Drug Evaluation & Classification Training IX-6B

Specific Anti-Anxiety Tranquilizers Examples

DRUG	BRAND NAMES	STREET NAMES
Alprazolam	Xanax	Bars, Zanny Bars
Chlordiazepoxide	Librium	
Clonazepam	Clonopin	
Diazepam	Valium	
Estazolam	Prosom	
Flunitrazepam	Rohypnol	Roofies, Roches
Flurazepam	Dalmane	
Lorazepam	Ativan	
Meprobomate	Miltown	
Oxazepam	Serax	
Temazepam	Restoril	
Triazolam	Halcion	

Drug Evaluation & Classification Training IX-6C

Specific Anti-Depressants Examples

DRUG	BRAND NAMES
Amitriptyline hydrochloride	Elavil, Endep
Bupropion	Wellbutrin
Citalopram	Celexa
Desipramine Hydrochloride	Norpramin, Pertofrane
Doxepin Hydrochloride	Adapin, Sinequan
Escitalopram	Lexapro
Fluoxetine	Prozac, Sarafem
Paroxetine	Paxil
Phenelzine Sulfae	Nardil
Sertraline	Zoloft
Venlafaxine	Effexor

Drug Evaluation & Classification Training IX-6D

Specific Anti-Psychotic Tranquilizers Examples

DRUG	BRAND NAMES
Chlorpromazine	Thorazine
Droperidol	Inapsine, Innovar
Haloperidol	Haldol
Lithium Carbonate	Lithane
Lithium Citrate	

Drug Evaluation & Classification Training IX-6E

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
- Non-barbiturates
  - Noctec or Felsule
  - Doriden
  - Noludar
  - 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

Drug Evaluation & Classification Training IX-11B

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

Drug Evaluation & Classification Training IX-11C

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

Drug Evaluation & Classification Training IX-11D

CNS Depressant Symptomatology Chart

HGN	Present
Vertical Gaze Nystagmus	Present (High dose for that individual)
Lack of Convergence	Present
Pupil Size	Normal*
Reaction to Light	Slow
Pulse Rate	Down**
Blood Pressure	Down
Temperature	Normal
Muscle Tone	Flaccid

* Soma and Quaaludes usually dilate pupils

** Quaaludes and ETOH may elevate

Drug Evaluation & Classification Training IX-12

QUESTIONS?

Drug Evaluation & Classification Training

DRUG INFLUENCE EVALUATION

Evaluator: PFC David Pacoe, BCPD	DRE No.: 5293	Rolling Log No.: 2-11-0301	Session IX #1
Recorder/Witness: Sgt. Tom Woodward	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case #: 04-5403-36042

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Cockroft, Carolyn	04-21-60	F	W	Ofc. Mike Gregor, MTA PD

Date Examined/Time/Location	Breath Results: ☐ Refused Instrument #	Chemical Test ☐ Refused ☒ Urine ☐ Blood
08-06-04, 0045, Tunnel Command	00324 0.00 %	

Miranda Warning Given: ☒ Yes ☐ No By: Ofc. Gregor	What have you eaten today? Chicken Soup	When? 8 pm	What have you been drinking? How much? Nothing	Time of last drink? N/A

Time now?	When did you last sleep?	How long?	Are you sick or injured?	Are you diabetic or epileptic?
Midnight	Last night	6 hrs.	☐ Yes ☒ No	☐ Yes ☒ No

Do you take insulin?	Do you have any physical defects?	Are you under the care of a doctor or dentist?
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

Are you taking any medication or drugs? ☐ Yes ☒ No
"It's none of your business."

Attitude: Sullen; withdrawn; non-responsive

Coordination: Poor; Stumbling, staggering

Breath: Normal

Face: Normal

Speech: Slurred

Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☒ Watery

Blindness: ☒ None ☐ Left Eye ☐ Right Eye

Tracking: ☒ Equal ☐ Unequal

Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft

Pupil size: ☒ Equal ☐ Unequal, (explain)

Able to follow stimulus: ☒ Yes ☐ No

Eyelids: ☐ Normal ☒ Droopy

Pulse and time

1. 60 10050
2. 58 10105
3. 58 10117

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	yes	yes
Angle of onset	35°	35°

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand

26 | 7

Romberg Balance

2" 2" 2" 2"

Walk and Turn test

Extra steps

M M M

Cannot keep balance	✓
Starts too soon:	✓

	1st Nine	2nd Nine
Stops walking		
Misses heel to toe	✓✓	✓
Steps off line	✓	
Raises arms	✓✓	
Actual # steps	9	11

L	R	
✓	✓	Sways while balancing
✓	✓	Uses arms to balance
✓	☐	Hopping
✓	✓	Puts foot down

Type of footwear: Loafers

Internal clock: 46 Est. as 30 seconds

Describe Turn: Lost balance, staggered to right

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched

R L 2 4 5 1 3 6

Pupil Size	Room Light	Darkness	Direct
Left	4.0	6.0	3.5
Right	4.0	6.0	3.5

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Reaction to Light: Slow

Oral cavity: Clear

RIGHT ARM **LEFT ARM**

None

Blood pressure: 110 / 70

Temperature: 98.5° f

Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? How much?	Time of use?	Where were the drugs used? (location)
"I took some medicine my brother gave me." unknown	Don't remember	Brother's house

Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
08/06/04, 0015	0035	0045	0125

DRE signature (Include rank)	ID #	Reviewed by
David Pacoe	5293	[illegible] Smith

Opinion of evaluator:
☐ Rule Out ☐ Medical ☐ Alcohol ☒ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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. **PSYCHOLPHYSICAL 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: Ofc. Jason Craven, CHP	DRE No.: 8225	Rolling Log No.: 05-09-174	Session IX #2
Recorder/Witness: Sgt. Helena Williams, CHP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 2005-4115-8912

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Henry, Michael J.	3-11-70	M	W	Dpty. Mike Roger, Sac. Co. S

Date Examined/Time/Location	Breath Results:	Chemical Test
09-06-05 2110 hrs, Stockton Blvd.	☐ Refused Instrument # 128384 0.05%	☐ Refused ☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No By: Dpty. Rogers	What have you eaten today? "Cheeseburger"	When? "Which time?"	What have you been drinking? How much? "Couple beers"	Time of last drink? 6 pm

Time now?	When did you last sleep?	How long?	Are you sick or injured?	Are you diabetic or epileptic?
About 9 PM	Last night	8 hrs	☐ Yes ☒ No	☐ Yes ☒ N

Do you take insulin?	Do you have any physical defects?	Are you under the care of a doctor or dentist?
☐ Yes ☒ No	☐ Yes ☒ No	☒ Yes ☐ No Seeing a doctor for stress

Are you taking any medication or drugs?	Attitude:	Coordination:
☒ Yes ☐ No "Valium, 4 times a day"	Cooperative	Poor, unstable
	Breath: Alcoholic Beverage	Face: Normal

Speech:	Eyes:	Blindness:	Tracking:
Slurred, thick	☐ Reddened Conjunctiva ☐ Normal ☒ Bloodshot ☐ Watery	☒ None ☐ Left Eye ☐ Right Eye	☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☐ Normal ☒ Droopy

Pulse and time

1. 64 / 2130
2. 62 / 2142
3. 62 / 2157

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	yes	yes
Angle of onset	30°	30°

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye — Left eye

One Leg Stand 20/30 21/

Romberg Balance

3" 3" 0" 0"

Walk and Turn test "Rubber Legged Walk"

Cannot keep balance	✓✓
Starts too soon:	

	1st Nine	2nd Nine
Stops walking		
Misses heel to toe	✓✓	✓
Steps off line	✓	✓
Raises arms	Constant	
Actual # steps	9	9

L	R	
✓✓	✓✓	Sways while balancin
✓✓	✓✓	Uses arms to balance
☐	☐	Hopping
✓	✓✓	Puts foot down

Type of footwear: Lace up shoes

Internal clock: 50 (Est. as 30 seconds)

Describe Turn: Lost balance and staggered

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	4.5	6.5	3.5
Right	4.5	6.5	3.5

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Reaction to Light: Slow

Oral cavity: Clear

RIGHT ARM **LEFT ARM**

No visible marks

Blood pressure: 106/66

Temperature: 98.6 °f

Muscle tone: ☒ Near normal ☐ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? How much?	Time of use?	Where were the drugs used? (location)
Valium "A couple of pills"	6 o'clock	Joe's Tavern

Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
09-06-05, 2030 hrs.	2050 hrs.	2115 hrs.	2210 hrs.

DRE Signature (Include rank)	ID #	Reviewed by
Jason Craven, CHP	8225	Sgt. Helena Williams 9/10/05

Opinion of evaluator: ☐ Rule Out ☐ Medical ☒ Alcohol ☒ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ 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 SFST's.

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. PSYCHOLPHYSICAL 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 oder 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:

- Explain a brief history of the CNS Stimulant 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.

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.	Onset and Duration of Effects	o Reading Assignments
D.	Overdose Signs and Symptoms	o Video Presentations
E.	Expected Results of the Evaluation	o Slide Presentations

Aids	Lesson Plan	Instructor Notes
25 Minutes	**CENTRAL NERVOUS SYSTEM STIMULANTS**	Total Lesson Time: Approximately 105 Minutes
X-1 (Title)		Display Title Slide Session title on wall chart.
X-2A&B (Objectives)		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".	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.
	b. The "speeding up" results in increased heartbeat, pulse, respiration, blood pressure and temperature.	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.
	c. All of these effects can lead to physical harm to the stimulant user.	

Aids	Lesson Plan	Instructor Notes
	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.	
 X-3A (Cocaine)	2. There are three major subcategories of Central Nervous System Stimulants. a. <u>Cocaine</u>	
 X-3B (Amphet)	b. <u>The Amphetamines</u> Examples: o Methamphetamine o Amphetamine Sulfate o Desoxyn	<u>Point out</u> that the Amphetamines include a large number of individual drugs, only a few of which are listed on Visual X-1.
 X-3C (Others)	c. <u>Others</u> o Ritalin (methylphenidate hydrochloride) o Preludin (phenmetrazine hydrochloride) o Cylert (pemoline) o Ephedrine o Caffeine	<u>Point out</u> that there are many "other" CNS Stimulants (i.e., non-Cocaine and non-Amphetamines); the ones listed on the visual are only a few of those. <u>Point out</u> 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 <u>are</u> other stimulant drugs.

Aids	Lesson Plan	Instructor Notes
 X-4 (Coca Plant)	3. Cocaine derives from the <u>coca plant</u>.	Coca plant: Scientific name "Erythroxylon Coca".
	a. The plant is native to South America.	
	b. Cocaine is made from the leaves of the coca plant.	<u>NOTE</u>: the coca plant should not be confused with the <u>cocoa</u> plant, from which chocolate is made.
	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.	Use of Cocaine in products such as Coca Cola was outlawed by the Pure Food and Drug Law of 1906.
	4. Amphetamines were first synthesized near the end of the 19th Century.	
 X-5A (Medical Uses)	a. The first use of Amphetamines for medical purposes began in the 1920's.	
	b. Initial medical application was to treat colds.	
	o Amphetamines cause the nasal membranes to shrink.	

Aids	Lesson Plan	Instructor Notes
	o This gives temporary relief from stuffy nasal passages.	Point out that much more effective drugs have been developed to treat cold symptoms. Amphetamines are no longer prescribed as cold remedies.
X-5B (Medical Uses)	c. Present day medical purposes for amphetamines include:	
	o control symptoms of narcolepsy	Narcolepsy: an extremely rare disorder that causes the individual to fall asleep compulsively, often several hundred times per day.
	o control certain hyperactive behavioral disorders	Example: Ritalin or Cylert are commonly prescribed for children diagnosed with ADD or similar disorders.
	o relieve or prevent fatigue to allow persons to perform essential tasks of long duration	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.
	o treat mild depression	
	o control appetite	Many over the counter appetite control products contain CNS Stimulants as their active ingredient.
	o antagonize the effects of Depressant drugs	Remind students that two drugs are antagonistic when the signs and symptoms of one are opposite to the signs and symptoms of the other.
	o prevent and treat surgical shock	

Aids	Lesson Plan	Instructor Notes
	o maintain blood pressure during surgery	
	o treat Parkinson's Disease	Parkinson's Disease: a form of paralysis characterized by muscular rigidity, tremor and weakness.
	o enhance the action of certain analgesic (pain killer) drugs	
	d. Numerous pharmaceutical companies manufacture Amphetamines for these purposes.	
X-6 (Pharm-aceutical Amphe-tamines)	e. Examples of common pharmaceutical Amphetamines.	
	o Dexedrine (dextroamphetamine sulfate) used to treat narcolepsy and hyperkinetic behavior, and for weight control. (Street names "Dexies", "Hearts")	NOTE: Dexedrine probably is the most commonly prescribed Amphetamine.
	o Benzedrine (Amphetamine sulfate) used to treat narcolepsy, hyperkinetic behavior and weight problems. (Street names "Bennies", "Whites", "Cartwheels")	

Aids	Lesson Plan	Instructor Notes
	o <u>Desoxyn</u> (Methamphetamine hydrochloride, also known as desoxyephedrine) used in weight reduction.	
	o <u>Adderall</u> (Combination of dextroamphetamine and amphetamine**)**	
X-7A (Illicit Amphet's)	5. Large quantities of Amphetamines are also <u>illegally manufactured</u> 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)

Aids	Lesson Plan	Instructor Notes
	e. Methamphetamine is also known as Methedrine or methamphetamine hydrochloride.	
	f. Its more common "street names" are "speed"; "crank"; "ice"; "crystal"; "meth"; and, "water".	If available: display slides of illicitly manufactured methamphetamine and amphetamine sulfate.
X-7B (Other Stimulants)	6. There are some other CNS Stimulants, apart from Cocaine or the Amphetamines. a. Preludin is a licitly manufactured CNS Stimulant that is not an Amphetamine: o generic name phenmetrazine hydrochloride o used in weight control o has all of the basic effects of amphetamine b. Ritalin is another licitly manufactured, non-Amphetamine CNS Stimulant: o generic name methylphenidate hydrochloride o used to treat mild depression, hyperkinetic behavior, narcolepsy and drug induced lethargy produced by CNS Depressants.	Ask students if they know of any children for whom Ritalin has been prescribed.

Aids	Lesson Plan	Instructor Notes
	o has many of the basic clinical effects of Amphetamine.	If available: display slides of Preludin and Ritalin.
	c. Cylert is a third licitly manufactured, non-Cocaine and non-Amphetamine CNS Stimulant:	
	o generic name Pemoline.	
	o used to treat Attention Deficit Disorder (ADD), also known as "hyperactivity".	
	o has many of the basic clinical effects of Amphetamine.	Remind the students that we will focus on Cocaine and the Amphetamines for our discussion of CNS Stimulants and their effects.
	d. Ephedrine is a licitly manufactured stimulant used in diet aides, body building supplements. It can also be found in herbal teas and preparations.	
	e. Cathine and Cathinone are the two psychoactive chemicals derived from the Khat plant. It originates from the sub-Sahara regions of Africa.	
	f. Methcathinone is illicitly manufactured from common household chemicals. Effects are very similar to methamphetamine.	Also known as “cat”.

Aids	Lesson Plan	Instructor Notes
 X-8A (Methods of Ingestion)	7. Methods of ingestion of CNS Stimulants. a. There are a variety of ways in which the different CNS Stimulants may be ingested. b. <u>Cocaine</u> is commonly insuf-flated (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".	<u>NOTE</u>: the term "Crack" derives from the cracking sound produced when the chunks are burned for smoking.
	d. Licitly manufactured <u>Amphetamines</u> are taken orally, in the form of tablets, capsules and liquid elixirs.	

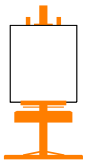
Aids	Lesson Plan	Instructor Notes
 X-8B (Methods of Ingestion)	e. Illicitly manufactured <u>Methamphetamine</u> most commonly is injected or smoked but sometimes may be snorted or taken orally.	Point out that bruising often will be seen around a Methamphetamine injection site.
	f. The smokeable forms 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.	<u>Point out</u> that "Ice" is a clear crystal similar in appearance to rock candy, crushed ice, or broken glass. <u>Point out</u> that “Crystal Meth” is less pure and has a cloudy appearance or maybe yellowish, tan, or even brown in color.
	g. Illicitly manufactured <u>Amphetamine sulfate</u> usually is produced in tablet form (called "Mini bennies") and is taken orally.	Solicit students' questions and comments about the overview of CNS Stimulants.
 5 Minutes	**B. Possible Effects**	
 X-9 (Possible Effects)	1. Both Cocaine and the Amphetamines produce <u>euphoria</u>, a feeling that there are no problems.	
	a. A feeling of super strength and absolute self confidence may also be present.	

Aids	Lesson Plan	Instructor Notes
	b. With Cocaine, but not with Amphetamines, there is an anesthetic effect, and the dulling of pain may contribute to the euphoria.	
	2. Stimulant users tend to become hyperactive, indicated by a nervousness, extreme talkativeness, and an inability to sit still.	
	3. CNS Stimulants tend to release inhibitions, allowing users to commit acts that they normally would avoid.	
	4. Stimulant users misperceive time and distance.	Example: To the subject, time seems to be speeded up, so that 2 hours may seem like two minutes.
	5. 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.	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.
10 Minutes	**C. Onset and Duration of Effects**	
	1. The onset and duration of effects are quite different for Cocaine as compared to the Amphetamines.	
	a. Generally speaking, Cocaine's effects are much briefer than are Amphetamine's.	

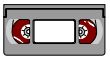
Aids	Lesson Plan	Instructor Notes
	b. The time parameters of Cocaine vary with the method of ingestion.	Note: Subjects that have ingested both Cocaine and Alcohol will produce a metabolite known as "Cocaethylene". Which has a half-life of four hours possibly extending the effects of Cocaine longer than the norm.
 X-10 (Cocaine Time Factors)	2. When Cocaine is <u>smoked</u>, 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 <u>injected</u>, 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).

Aids	Lesson Plan	Instructor Notes
	4. When Cocaine is <u>snorted</u> (insufflated), the onset of effects is not quite as rapid as with smoking or injecting.	<u>Point out</u> that snorting remains a very popular method of ingesting Cocaine.
	a. The user typically feels the onset of effects within 30 seconds after snorting the drug.	
	b. Although the "rush" occurs, it is not quite as intense as it is when the Cocaine is smoked or injected.	
	c. The effects from snorting usually last from 30-90 minutes.	
	5. <u>Oral</u> ingestion of Cocaine usually is the least preferred method.	
	a. The user generally does not begin to feel the effects for 3-5 minutes.	
	b. The effects are not as intense as they are with other methods of ingestion.	
	c. However, the effects may last 15-30 minutes longer than with other methods.	<u>Clarification</u>: the effects of Cocaine taken orally may last from 45-120 minutes.
	6. With all methods of ingestion, the duration of Cocaine's effects tend to be briefer than the effects of most other drugs.	<u>Point out</u> 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.
	a. As the effects wear off, it becomes very difficult to observe evidence of impairment.	

Aids	Lesson Plan	Instructor Notes
	b. 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.	
 X-11 (Meth Time Factors)	7. When Methamphetamine is <u>injected</u>, 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.	Source: Drugs and Human Performance Fact Sheets, NHTSA (2004)
	9. When Methamphetamine is snorted or taken orally, the onset takes longer, the rush is much less intense, and the effects are much briefer.	Solicit students' comments and questions concerning time parameters of Cocaine and Methamphetamine.
 5 Minutes	**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	

Aids	Lesson Plan	Instructor Notes
	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.	Write on dry erase board or flip-chart "Cocaine Psychosis or Cocaine Delirium".
	2. Death can occur from sudden respiratory failure, or from heart arrhythmia, leading to cardiac arrest.	Example: The feeling that bugs are crawling under the skin is also known as "Coke Bugs".
	3. Another danger is that subjects may attempt to treat CNS Stimulant overdose with Barbiturates, possibly leading to overdose of CNS Depressants.	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.
60 Minutes **X-12A** (Evaluation Results)	**E. Expected Results of the Evaluation** 1. Observable evidence of impairment. o Horizontal Gaze Nystagmus will <u>not</u> be present with suspects under the influence of CNS Stimulants. o Vertical Gaze Nystagmus will <u>not</u> be present.	

Aids	Lesson Plan	Instructor Notes
	o Lack of Convergence will not be evident	
	o Performance on Romberg will be impaired.	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.
	o Performance on Walk and Turn may be impaired due to the suspect's hyperactivity and inability to concentrate.	Example: suspect may start too soon on Walk and Turn, and may tend to walk fast, thus losing balance or missing heel to toe.
	o Performance on One Leg Stand may be impaired due to the suspect's hyperactivity.	Example: Suspect may also count very rapidly on the one leg stand test.
	o Performance on Finger to Nose tests will be impaired.	His or her finger movements may be abrupt, jerky and inaccurate.
X-12B (Vital Signs Exams)	o blood pressure generally will be elevated	
	o pulse generally will be increased	
X-12C (Darkroom)	o body temperature generally will be elevated	
	o pupils generally will be dilated	Point out that the technical term for "dilated pupils" is Mydriasis.
	o pupil reaction to light generally will be slow	

Aids	Lesson Plans	Instructor Notes
 X-12D&E (General Indicators)	b. General indicators: o anxiety o body tremors o dry mouth o euphoria o excited o exaggerated reflexes o eyelid tremors o grinding teeth (bruxism) o increased alertness o insomina o irritability o redness to nasal area o restlessness o rigid muscle tone o runny nose o talkative	
 X-13 (Symptoma-tology Chart)		<u>NOTE</u>: 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 exem-plars 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

X-1

Central Nervous System Stimulants

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

- Explain a brief history of the CNS Stimulant 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

Drug Evaluation & Classification Training X-2A

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

Drug Evaluation & Classification Training X-2B

Subcategories of CNS Stimulants

- Cocaine

Drug Evaluation & Classification Training X-3A

Subcategories of CNS Stimulants (Continued)

- Amphetamines
  - Methamphetamine
  - Amphetamine Sulfate
  - Desoxyn

Drug Evaluation & Classification Training X-3B

Subcategories of CNS Stimulants (Continued)

- Others
  - Ritalin
  - Preludin
  - Cylert
  - Ephedrine
  - Caffeine

Drug Evaluation & Classification Training X-3C

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

- Dexedrine
  - Dextroamphetamine Sulfate
- Benzedrine
  - Amphetamine Sulfate
- Desoxyn
  - Methamphetamine Hydrochloride

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

- Smoked (freebase)
  - Virtually immediate effects
  - Very intense "rush"
  - Effects last 5-10 minutes
- 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
- Eyelid and Leg tremors
- Irritability
- Redness to nasal area
- Restlessness
- Running nose
- 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

HGN	None
VGN	None
Lack of Convergence	None
Pupil Size	Dilated (mydriasis)
Reaction to Light	Slow
Pulse Rate	Up
Blood Pressure	Up
Temperature	Up
Muscle Tone	Possibly rigid

QUESTIONS?

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Ross Batson, A.H.P.	DRE No. 2189	Rolling Log No. 04-07-15	Session X #1
Recorder/Witness: Pam Mays, C.J.I.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-67740
Arrestee's Name (Last, First MI): Hedlund, James R.	DOB: 7-10-63	Sex: M	Race: W.
Arresting Officer (Name, ID No.): Tfc. Jeff Hust, A.S.P.			
Date Examined/Time/Location: 7/08/04, 2230, County Jail	Breath Results: ☐ Refused Instrument # 012838A 0.00 %	Chemical Test ☐ Refused ☐ Urine ☒ Blood	
Miranda Warning Given: ☒ Yes ☐ No By: TFC. Hust 2235	What have you eaten today? Candy Bar	When? Around noon	What have you been drinking? How much? Nothing
Time of last drink? N/A			
Time now? 8 o'clock	When did you last sleep? Last night	How long? 3 hours	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 under the care of a doctor or dentist? ☐ Yes ☒ No	
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Cooperative	Coordination: Poor, Stumbling	
	Breath: Normal	Face: Normal	
Speech: Rapid, Nervous	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy

Pulse and time

1. 112 / 2240
2. 108 / 2253
3. 100 / 2305

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand

41/30 (25) (21) 45/30

Romberg Balance

3" 2" 0" 0"

Walk and Turn test

Had difficulty standing still during instructions

Cannot keep balance	✓✓
Starts too soon:	✓

	1st Nine	2nd Nine
Stops walking		
Misses heel to toe		
Steps off line		
Raises arms	✓✓✓	✓✓
Actual # steps	9	9

L	R	
✓	✓	Sways while balancing
✓✓	✓✓	Uses arms to balance
✓✓	☐	Hopping
✓	✓	Puts foot down

Type of footwear: Boots

Internal clock: 15 (Est. as 30 seconds)

Describe Turn: Turned quickly (swivel)

Cannot do test (explain): N/A

Nasal area: White powder residue in nose

Draw lines to spots touched

Quick, jerky movements

Pupil Size	Room Light	Darkness	Direct
Left	6.0	8.5	6.0
Right	6.0	8.5	6.0

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: clear

Reaction to Light: Slow

RIGHT ARM / **LEFT ARM**

None visible

Blood pressure: 142 / 96

Temperature: 99.9 °f

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid

Comments:

What medication or drug have you been using? How much? Nothing. "I won't answer that."	Time of use? N/A	Where were the drugs used? (location) Refused	
Date/Time of Arrest: 07/08/04 2200	Time DRE Notified: 2220	Evaluation Start Time: 2230	Time Completed: 2310
DRE signature (Include rank): Ross Batson Sgt.	ID #: 515	Reviewed by:	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☒ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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	DRE No. 1894	Rolling Log No. 04-10	Session X #2
Recorder/Witness: Sgt. Charlie Phillips	Crash: [X] None [ ] Fatal [ ] Injury [ ] Property		Case # 04-22876

Arrestee's Name (Last, First MI): Kohlhepp, Kim J.	DOB: 8/24/73	Sex: F	Race: W	Arresting Officer (Name, ID No.): Ofc. David Steiner, OKC PD

Date Examined/Time/Location: 10/10/04, 2315 Oklahoma Co. Jail	Breath Results: [ ] Refused Instrument # 1501 0.00 %	Chemical Test: [ ] Refused [ ] Urine [X] Blood

Miranda Warning Given: [X] Yes [ ] No By: F. Barnes 2317	What have you eaten today? Hot dog	When? 1 pm	What have you been drinking? How much? "Nothing"	Time of last drink? N/A

Time now? Midnight	When did you last sleep? Yesterday	How long? 4 hrs.	Are you sick or injured? [ ] Yes [X] No	Are you diabetic or epileptic? [ ] Yes [X] No

Do you take insulin? [ ] Yes [X] No	Do you have any physical defects? [ ] Yes [X] No	Are you under the care of a doctor or dentist? [ ] Yes [X] No

Are you taking any medication or drugs? [ ] Yes [X] No "I don't do drugs"	Attitude: Cooperative, Restless	Coordination: Poor, Jittery, Stumbling
	Breath: Normal	Face: Normal
Speech: Very talkative, Rapid	Eyes: [ ] Reddened Conjunctiva [X] Normal [ ] Bloodshot [ ] Watery	Blindness: [X] None [ ] Left Eye [ ] Right Eye
		Tracking: [X] Equal [ ] Unequal
Corrective lens: [X] None [ ] Glasses [ ] Contacts, if so [ ] Hard [ ] Soft	Pupil size: [X] Equal [ ] Unequal, (explain)	Able to follow stimulus: [X] Yes [ ] No
		Eyelids: [X] Normal [ ] Droopy

Pulse and time
1. 100 / 2320
2. 108 / 2331
3. 104 / 2343

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus [ ] Yes [X] No

Convergence: Right eye — Left eye

One Leg Stand: 23 (R, L) — 22 (L, R)

Romberg Balance: 2" 2" 0" 0"
Leg Tremors
Eyelid Tremors

Walk and Turn test

Cannot keep balance	—
Starts too soon:	—

	1st Nine	2nd Nine
Stops walking	—	—
Misses heel to toe	—	—
Steps off line	✓	✓
Raises arms	✓✓	✓
Actual # steps	9	9

L	R	
✓✓	✓	Sways while balancing
✓✓	✓✓	Uses arms to balance
✓	[ ]	Hopping
✓	✓	Puts foot down

Type of footwear: Heels (Removed)

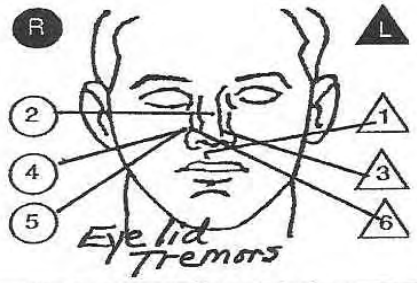
Internal clock: 12 — Est. as 30 seconds

Describe Turn: Swivel Turn, One quick motion

Cannot do test (explain): N/A

Nasal area: Red, ulcerated

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	6.5	9.0	6.0
Right	6.5	9.0	6.0

Oral cavity: Clear

Hippus: [ ] Yes [X] No

Rebound dilation: [ ] Yes [X] No

Reaction to Light: Slow

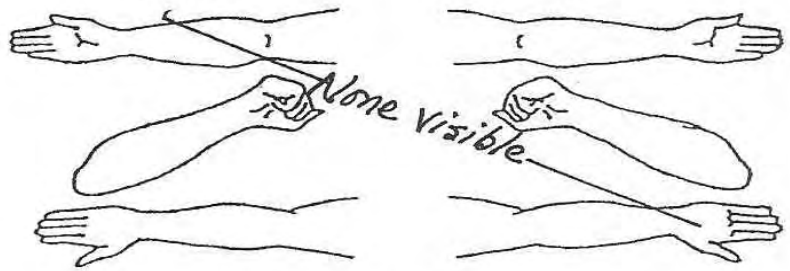
Blood pressure: 144/104

Temperature: 99.8 °f

Muscle tone: [X] Near normal [ ] Flaccid [ ] Rigid

Comments:

RIGHT ARM — LEFT ARM



What medication or drug have you been using? How much? "I don't use drugs anymore"	Time of use? Refused	Where were the drugs used? (location) Refused	
Date/Time of Arrest: 10/10/04, 2240	Time DRE Notified: 2305	Evaluation Start Time: 2315	Time Completed: 2345
DRE signature (include rank): W. 13	ID # 1894	Reviewed by: 16397	

Opinion of evaluator: [ ] Rule Out [ ] Medical [ ] Alcohol [ ] CNS Depressant [X] CNS Stimulant [ ] Hallucinogen [ ] Dissociative Anesthetic [ ] Narcotic Analgesic [ ] Inhalant [ ] Cannabis

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

Aids	Lesson Plan	Instructor Notes
 10 Minutes	**PRACTICE: EYE EXAMINATIONS**	Total Lesson Time: Approximately 60 Minutes Display Session Title Point out "Practice Sessions" wall chart.
 XI-1 (Title)		
 XI-2 (Objectives)		Briefly review the objectives, content and activities of this session.
	A. Procedures For This Session	
	1. Participants will work in three or four member teams.	<u>Make</u> team assignments.
	a. At any given time, one member of the team will be engaged in conducting and recording eye examinations of another member.	
	b. The remaining member(s) will help coach and critique the student who is conducting the examinations.	<u>Emphasize</u> that students can help each other learn by pointing out errors of omission or commission.
	2. Participants will take turns serving as test administrator, test subject and coach.	

Aids	Lesson Plan	Instructor Notes
	3. Teams initially will practice under lighted room conditions. a. Check pupil size under normal room light. b. Check reaction to light and pupil size using a pen light in a lighted room.	<u>Clarification</u>: students will shine a pen light directly into the subject's eye. <u>Demonstrate</u> this, using a student subject.
	4. Teams subsequently will practice under darkened room conditions. a. Check pupil size in near total darkness. b. Check reaction to light and pupil size under direct light.	
	5. Students will record their estimations using Eye Examinations Data Sheet.	<u>Point out</u> the copies of the Eye Examination Data Sheet in the Student's Manual. Solicit students' questions concerning procedures for this practice session.
20 Minutes	**B. Room Light Examinations**	
	1. Pupil size estimation, under room light.	<u>Monitor</u> teams and coach students as necessary and appropriate.
	2. Pupil reaction and size estimation, under direct light.	When the first student completes the two estimations, have the team members exchange roles. Continue this process. Sequence of roles should be as follows:

Aids	Lesson Plan	Instructor Notes
		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).
25 Minutes	**C. Dark Room Examinations** 1. Pupil size estimation, under near total darkness. 2. Pupil reaction and size estimation, under direct light.	Allow students approximately 90 seconds for their eyes to adapt to the darkened conditions. Monitor teams and coach students as necessary and appropriate. When the first student completes the two checks, have the team members exchange roles. Continue this process. 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).
5 Minutes	**D. Session Wrap Up**	Offer appropriate comments and observations about the students' performance. Solicit students' comments concerning the practice session.

Session XI

Practice: Eye Examinations

XI-1

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

Drug Evaluation & Classification Training XI-2

QUESTIONS?

Drug Evaluation & Classification Training

One Hour and Forty-Five Minutes

SESSION XII

ALCOHOL WORKSHOP

SESSION XII ALCOHOL WORKSHOP

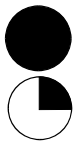
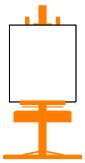
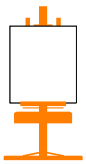
Upon successfully completing this session the student will be able to:

- 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.

Content Segments	Learning Activities
A. Procedures	o Instructor Led Presentations
B. Hands-On Practice	o Student Led Practice
C. Session Wrap Up	o Instructor Led Discussion

Aids	Lesson Plan	Instructor Notes
 10 Minutes	**ALCOHOL WORKSHOP**	Total Lesson Time: Approximately 105 Minutes Display Session Title
 XII-1 (Title)		
 XII-2 (Objectives)		Briefly review the objectives, content and activities of this session.
	A. Procedures	
	1. Students will work in three or four member teams during this session.	Make team assignments.
	2. Each team will administer a battery of tests to each volunteer.	
 XII-3 (Examinations and Tests)	a. The preliminary clinical examinations and psycho-physical 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)	<u>Point out</u> that for the DEC drug influence evaluation, it is helpful to estimate angle of onset for HGN, and to relate it to BAC.

Aids	Lesson Plan	Instructor Notes
	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.
	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.	<u>Emphasize</u> 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:	
	a. <u>No weapons will be present.</u>	
	b. <u>Volunteers will not be left unattended at any time.</u>	Solicit students' questions concerning the procedures for the Alcohol Workshop.

Aids	Lesson Plan	Instructor Notes
 **75 Minutes**	**B. Hands On Practice**	<u>Monitor</u> teams as they test the volunteers.
	1. Test administration	
	2. Test recording	Make sure that each student takes at least one turn as a test administrator. Coach students, as necessary, to improve their performance as test administrators. Terminate the hands on practice after 75 minutes, or after each team has tested 5 volunteers (whichever occurs first).
 20 Minutes	**C. Session Wrap Up**	
	1. Feedback of teams' assessments	<u>Record</u> 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. Ask each team <u>briefly</u> to describe the evidence that led the members to their conclusions about a particular volunteer's BAC.
	2. Feedback of volunteers' BACs.	<u>Record</u> each volunteer's actual BAC on the dry erase board array.

Aids	Lesson Plan	Instructor Notes
	3. Discussion	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. Solicit students' comments or questions concerning the alcohol workshop.

SAMPLE DRY ERASE BOARD ARRAY FOR RECORDING TEAMS' ASSESSMENTS.

TEAMS' ESTIMATES OF BAC

Volunteer	.05 or less	.06-.07	.08-.09	.10 - .11	.12 - .13	.14 - .15	.16 or more	Actual BAC

(TABLE ENTRIES REPRESENT TEAMS' "VOTES")

Session XII

Alcohol Workshop

XII-1

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

Drug Evaluation & Classification Training XII-2

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

Drug Evaluation & Classification Training XII-3

QUESTIONS?

Drug Evaluation & Classification Training

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.

Content Segments	Learning Activities
A. Physician's Desk Reference as a Resource	o Instructor Led Presentations
B. Practical Exercise	o Small Group Exercise
C. Other Resource Material	

Aids	Lesson Plan	Instructor Notes
 10 Minutes	**PHYSICIAN'S DESK REFERENCE (PDR)**	Point out that the PDR has been admitted as a "learned treatise" in previous court cases. Point out that we will use the PDR for prescription drugs.
 XIII-1 (Title)	**A. Physician's Desk Reference as a Resource**	Total Lesson Time: Approximately 30 Minutes Display Session Title
 XIII-2 (Objectives)	1. PDR is published annually. a. Many versions are published: o PDR for prescription drugs	Briefly review the content, objectives and activities of this session. Instructors Note: Due to the unique nature of this session, instructors teaching this session should strive to develop innovative and interactive creative learning activities.
	o PDR for non-prescription drugs o PDR for ophthalmology b. PDR supplements are published periodically as new products are introduced during the year. c. Function of the publisher is compilation, organization and distribution of information.	There are other PDR publications in addition to these. Exhibit copy of a PDR.

Aids	Lesson Plan	Instructor Notes
	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.	
XIII-3 (Sections of PDR)	2. Sections of a PDR.	Point out that the sections are color coded for easy use.
	a. Manufacturers Index (Section 1)	List of manufacturers (with phone numbers) who have provided prescribing information.
	b. Product Name Index and Discontinued Products (Section 2).	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.
	c. Product Category Index (Section 3).	Products listed according to appropriate category.
	d. Generic and Chemical Name Index (Section 4).	Products listed under generic and chemical name headings according to the principal ingredient(s).
	e. Product Identification Section (Section 5).	Point out that this section contains actual size, full color reproductions.
	f. Product Information Section (Section 6).	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
		It also includes common names, generic compositions or chemical names.
	g. Diagnostic Product Information (Section 7)	Diagnostic product descriptions.
	h. Poison Control Centers	List of centers and emergency telephone numbers.
	i. Guide to Management of Drug Overdose.	Information concerning drug over dosage.
	3. Use of PDR in DEC program	This information is contained in the product identification section.
	a. To identify prescription drugs.	
	b. To identify the effects of prescription drugs for comparison with observed effects.	This information is contained in the product information section.
	4. How to use the PDR.	
	a. Identification of an unknown product.	Demonstrate how to identify a tablet, capsule, etc. using the product identification section.
XIII-4 (Product Example)	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.

Aids	Lesson Plan	Instructor Notes
 15 Minutes	**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.
 5 Minutes **XIII-5A-C** (Information Sources)	**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)

Aids	Lesson Plan	Instructor Notes
	8. Drugs and Human Performance Fact Sheets	Produced by U.S. DOT - NHTSA, Report No. DOT HS 809 725, March 2004
	9. Newspaper and magazine articles on drugs and drug impaired driving, including counter-culture magazines such as "High Times".	
	10. Software programs such as Pharmacists, Body Works, Mosbey's Medical Dictionary and other programs are available on disks and CDs.	
	11. Various resources are available through Online services and the Internet.	Point out that the IACP Drug Evaluation and Classification Program website is www.decp.org
	12. Other texts	Instructor: Discuss some other useful and reliable texts known to you.

Session XIII

Physician's Desk Reference (PDR) and Other Reference Sources

XIII-1

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

Drug Evaluation & Classification Training XIII-5C

QUESTIONS?

Drug Evaluation & Classification Training

One Hour and Forty-Five Minutes

SESSION XIV

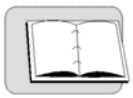
HALLUCINOGENS

SESSION XIV HALLUCINOGENS

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

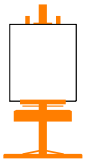
- Explain a brief history of the Hallucinogen category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe the 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.

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. Onset and Duration of Effects	o Reading Assignments
D. Overdose Signs and Symptoms	o Video Presentations (If Available)
E. Expected Results of the Evaluation	o Slide Presentations

Aids	Lesson Plan	Instructor Notes
 20 Minutes	**HALLUCINOGENS**	Total Lesson Time: Approximately 105 Minutes
 XIV-1 (Title)		Display Session Title
 XIV-2A&B (Objectives)		Briefly review the objectives, content and activities of this session.
	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 <u>something that causes hallucinations</u>.	Definition from <u>The Random House College Dictionary</u> (Revised Edition, 1980).
	b. An <u>hallucination</u> 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 <u>distorted</u> sensory perceptions, so that things look, sound, smell, etc. <u>differently</u> then they really are.	

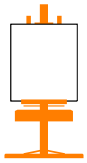
Aids	Lesson Plan	Instructor Notes
 XIV-3 (Synesthesia)	c. Hallucinogenic drugs usually produce what are called <u>pseudo-hallucinations</u>: i.e. the user typically is aware that what he or she is seeing, hearing, smelling, etc. isn't real, but is a product of the drug.	<u>But emphasize</u> that the fact that the user knows the hallucinations aren't real doesn't make those hallucinations any less dangerous if they occur while driving.
	d. One common type of hallucination produced by these drugs is called <u>Synesthesia</u>, which means a transposing of sensory modes.	Note: Synesthesia may occur naturally in an insignificant percentage of the population.
	o Sounds for example, may be transposed into sights.	<u>Examples</u>: The user may "see" a flash of color, or some other sight, when the telephone rings.
	o Sights may be transposed into odors.	The user may "smell" a particular fragrance when he or she looks at something painted red.
	e. The illusions and distorted perceptions produced by hallucinogenic drugs may be very alarming, even terrifying.	
	o They may produce panic and uncontrolled excitement.	<u>Point out</u> that the expression "bad trip" refers principally to these panic filled reactions to Hallucinogens.
	o The user may be unable to cope with the terror, and may attempt to flee wildly.	
	o A user who is emotionally or mentally unstable may become psychotic in response to	

Aids	Lesson Plan	Instructor Notes
	this frightening experience.	
 XIV-4A (Flashback)	f. A terrifying "bad trip" sometimes may be re-experienced as a <u>flashback</u>. o In simple terms, a flashback is a vivid recollection of a portion of an hallucinogenic experience. o A flashback does <u>not</u> occur because of a residual quantity of drug in the user's body. o Instead, a flashback essentially is a very intense daydream.	<u>But point out</u> that subsequent use of the drug may precipitate a flashback, by causing the user to re-experience the frightening illusions of the previous "bad trip".
 XIV-4B (Types of Flashback)	g. There are three types of flashback: o Emotional: Feelings of panic, fear, etc; the sensations of a "bad trip". o Somatic: Altered body sensations, tremors, weakness, dizziness, crawly, tingly feelings on the skin. o Perceptual: Distortions of vision, hearing, smell and/ or other senses. These distortions are "re-runs" of the original "trip".	

Aids	Lesson Plan	Instructor Notes
 XIV-5 (Illusions and Delusions)	h. Remember that hallucinogens produce <u>illusions</u>, <u>delusions</u> or both.	
	o An illusion is a false perception, i.e. a mis-representation of what the senses are receiving.	Example of an illusion: "I see an Elephant".
	o A delusion is a false belief.	Example of a delusion: "I am an Elephant".
	i. Because they often make the user appear to be insane, Hallucinogens sometimes are called psychotomimetic drugs.	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.
 XIV-6A (Common Hallucin-ogens)	2. Some Hallucinogens come from natural sources, while others are synthetically manufactured.	
	a. Peyote and Psilocybin are examples of naturally occurring Hallucinogens.	<u>Instructor, for your informa-tion</u>: Other naturally occurring Hallucinogens include nutmeg; jimson weed; morning glory seeds; salvia divinorum; and, bufotenine, a substance found in the glands of certain toads.

Aids	Lesson Plan	Instructor Notes
  XIV-6B (Synthetic)		Note: Some regional or local Hallucinogens may be discussed in more detail.
	b. LSD, MDA, MDMA, DMT, STP, TMA and 2CB are examples of synthetically manufactured Hallucinogens.	LSD: Lysergic Acid Diethylamide
	c. MDMA is an abbreviation for 3,4-Methylenedioxy-methamphetamine 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.	Point out that STP is also known as DOM (Dimeth-oxylamphetamine). STP is an abbreviation for "Serenity, Tranquility and Peace". TMA: Trimethoxyamphetamine DMT: Dimethyltryptamine
	d. MDA is an abbreviation for 3,4-Methylenedioxy-amphetamine. It is normally produced as a clear liquid, or as a white powder in capsule or tablet form.	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.
	3. Peyote is a small, spineless cactus.	
	a. The active, hallucinogenic ingredient in peyote is mescaline.	If available, show slides of the peyote cactus and/or other peyote examples.
	b. Peyote use by certain Indian tribes for religious rituals pre-dates Columbus' discovery of America by many centuries.	Mescaline is a chemical relative of adrenalin. Effects may be similar to those that would result from a massive rush of adrenalin.

Aids	Lesson Plan	Instructor Notes
	c. Peyote is used legally in religious ceremonies of the Native American Church.	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.
	4. Psilocybin is a drug found in a number of different species of mushrooms of the genus Psilocybe.	There are over 100 known species of mushrooms that contain psilocybin and psilocin. <u>Source:</u> Drug Identification Bible, 2004/2005 Edition
	a. These mushrooms also have been used in Indian religious ceremonies for thousands of years.	<u>If available</u>, show slides of Psilocybin Mushrooms.
	b. An unstable derivative of Psilocybin, called <u>Psilocin</u>, is also found in these mushrooms and also has hallucinogenic properties.	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.
	5. LSD is perhaps the most famous of the synthetically manufactured Hallucinogens.	
	a. "LSD" is an abbreviation of Lysergic Acid Diethylamide.	
	b. It was first produced in 1938, although its hallucinogenic properties were not discovered until 1943.	
	c. LSD was used in psychotherapy during the 1940's and early '50's.	<u>Example</u>: It was occasionally used in the treatment of alcoholism.

Aids	Lesson Plan	Instructor Notes
		If available, show slides of various forms of LSD.
	d. Although LSD is a synthetic drug, it was first derived from Ergot, a fungus that grows on rye and other grains.	Write "LSD derived from Ergot, a fungus" on the dry erase board or flip-chart.
	e. In the Middle Ages, when people accidentally ate this fungus, their resulting bizarre behavior was thought to stem from possession by the Devil.	
	f. The trials and subsequent burning of "witches" in Salem, Massachusetts in 1692 probably was due to accidental Ergot consumption by those women.	
	g. Ergot is still used medically to treat migraine headaches.	Sandoz Laboratories markets a combination of caffeine and Ergot called Cafergot.
	6. 2CB (4-Bromo-2, 5-dimethoxy-phenethylamine) is a popular drug first synthesized in 1974.	
	a. 2CB is considered both a psychedelic and an entactogen.	Note: “Entactogen” is a term used by psychiatrists to classify Ecstasy (MDMA). It literally means “touching within”.
	b. 2CB is a white powder usually found in pressed tablets or gel caps.	
	c. 2CB is sometimes referred to as “Venus”, “Nexus”, and “bromo-mescaline”.	

Aids	Lesson Plan	Instructor Notes
	7. MDA, STP and TMA are synthetically manufactured Hallucinogens that sometimes are called "Psychedelic Amphetamines".	
	a. They are chemically related to Amphetamines and produce many effects similar to those of CNS Stimulants.	
	b. They are also chemically related to Mescaline.	
	c. MDA is an abbreviation for 3, 4-Methylenedioxy-amphetamine	
	d. Among users, MDA sometimes is referred to as the "Mellow Drug of America".	
	e. STP is also called DOM, an abbreviation of 2 Methyl-2,5 Dimethoxylamphetamine.	
	f. Users have popularized the abbreviation STP, representing "Serenity, Tranquility and Peace".	Point out the ironic fact that drugs popularly associated with soothing concepts like "mellowness and tranquility" actually often produce the extreme panic of a "bad trip".
	g. TMA is an abbreviation for 3,4,5-Trimethoxyamphetamine.	Point out that there are additional Hallucinogens beyond those listed on Visual XIV-3.
	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.	But point out that many people repeatedly abuse these non-addictive drugs because they enjoy the hallucinogenic effects they produce.

Aids	Lesson Plan	Instructor Notes
	8. Methods of ingestion of Hallucinogens. a. The most common method of ingesting Hallucinogens is orally. o LSD is placed on bits of paper, gelatin squares, or sugar cubes and eaten. o The small "buttons" or crowns of the Peyote Cactus are dried and eaten, or may be brewed into a beverage for drinking. o Similarly, the Psilocybin Mushrooms are dried and eaten, or may be brewed into a beverage for drinking.	
	b. Some Hallucinogens can also be smoked (example: LSD impregnated on Marijuana or tobacco cigarettes).	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.
	c. Some users inject LSD.	
	d. MDA can also be insufflated, or "snorted".	Solicit students' comments or questions on this overview of Hallucinogens.

Aids	Lesson Plan	Instructor Notes
 5 Minutes	**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	

Aids	Lesson Plan	Instructor Notes
	reality, often with a mixing of senses that makes it virtually impossible for the drug influenced user to function in the real world.	Solicit students' comments or questions on this overview of Hallucinogens.
 15 Minutes **XIV-7A&B** (Time Factors of Peyote)	**C. Onset and Duration of Effects** 1. The time parameters associated with Hallucinogens vary from drug to drug. 2. The effects of Peyote (Mescaline) begin to be felt within approximately one-half hour after eating the cactus "buttons". a. <u>30 minutes</u>: nausea, possibly leading to vomiting; mild rise in blood pressure, pulse, temperature and heart rate; pupils dilate. b. <u>One hour</u>: sensory changes begin; visual distortions accompanied by rich colors; objects take on new forms and begin to move; shapes "come alive". c. <u>3-4 hours</u>: sensory changes reach their peak; synesthesia (mixing of senses) commonly occurs. d. <u>10 hours</u>: gradual decline in effects. e. <u>12 hours</u>: nearly total recovery from effects.	

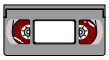
Aids	Lesson Plan	Instructor Notes
	f. 24 hours: approximately 87% of the Mescaline has been excreted from the body.	
 XIV-8A&B (Time Factors of Psilocybin)	3. Psilocybin also begins to exert its effects within one-half hour. a. 1-30 minutes: dizziness, light headed feeling, giddiness; the extremities (hands, feet, etc.) may feel very light or very heavy. b. 30-60 minutes: vision blurs; colors become brighter, leave longer lasting after images; objects take on sharp visual definition; hearing becomes more acute. c. 60-90 minutes: 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. d. 90-100 minutes: body sensations increase, along with mental perceptions; user commonly becomes introspective. e. 120-180 minutes: effects start to diminish.	

Aids	Lesson Plan	Instructor Notes
 XIV-9 (Time Factors of LSD)	4. LSD's effects begin to be felt within 30-45 minutes. a. <u>30-45 minutes</u>: blood pressure, pulse and temperature rise; pupils dilate; hair starts to stand on end (Piloerection); nausea, dizziness and headache develop. b. <u>4-6 hours</u>: effects reach their peak. c. <u>7-9 hours</u>: effects diminish. d. <u>10-12 hours</u>: 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 <u>directly</u> result in death from overdoses.	
	b. However, an overdose can be extremely dangerous and <u>indirectly</u> result in death.	
	o 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.	
	o Sometimes Hallucinogens induce a perception of invulnerability in the user, leading to bizarre and very dangerous behavior, and death.	<u>Example</u>: 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.
	2. The most common danger of an overdose of Hallucinogen is an intense "bad trip", which can result in severe and sometimes permanent psychosis.	

Aids	Lesson Plan	Instructor Notes
	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.	Solicit students' comments and questions concerning time factors.
60 Minutes	**E. Expected Results of the Evaluation**	
 XIV-10A (Evaluation Results)	1. Observable evidence of impairment. o Neither Horizontal nor Vertical Gaze Nystagmus will be present. o Lack of Convergence will not be evident. o Performance on the Romberg balance test will be impaired, particularly in the subject's estimation of the passage of 30 seconds. o 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.

Aids	Lesson Plan	Instructor Notes
 XIV-10B (Vital Signs) **XIV-10C** (Darkroom)	a. Vital Signs o pulse generally will be up. o blood pressure generally will be elevated. o body temperature generally will be up. o pupils generally will be dilated. o Reaction to light will usually be normal. Certain Psychedelic Amphetamines usually will slow the pupils' reaction to light	
 XIV-10D (General Indicators)	b. General indicators o body tremors o dazed appearance o difficulty with speech o disoriented o flashbacks o hallucinations o memory loss o nausea o paranoia o perspiring o poor perception of time and distance o rigid muscle tone o synesthesia o uncoordinated	

Aids	Lesson Plan	Instructor Notes
XIV-11 (Symp-tomatology Chart)		
	3. Summary	
	4. Demonstrations	
	a. Video demonstrations (if available)	Show video of subject(s) under the influence of Hallucinogens. Relate behavior and observations to the Symptomology Chart.
	b. Drug Evaluations and Classification exemplar demonstrations	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 Symptomatology Chart. Solicit students' questions or comments concerning expected results of the evaluation of subjects under the influence of Hallucinogens.

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 <u>while</u> 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

XIV-1

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

Drug Evaluation & Classification Training XIV-2A

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

Drug Evaluation & Classification Training XIV-2B

Synesthesia:

A transposition of senses

- "Seeing sounds"
- "Hearing colors"

Drug Evaluation & Classification Training XIV-3

"Flashback"

A vivid recollection of a hallucinogenic experience

Drug Evaluation & Classification Training XIV-4A

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)

Drug Evaluation & Classification Training XIV-4B

Illusion:

A false perception

Delusion:

A false belief

Common Hallucinogens

Peyote (Mescaline)

Psilocybin

(Both are grown naturally)

Common Hallucinogens
(Continued)

- Synthetically manufactured
  - LSD (Lysergic Acid Diethylamide)
  - MDMA "Ecstasy" (3, 4 Methylenedioxyamphetamine)
  - MDA (3,4-Methylenedioxyamphetamine)
  - 2CB (4 bromo-2, 5-dimethoxyphenethyamine)

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 Peyote

- 10 hours: Gradual decline of effects
- 12 hours: Nearly total recovery
- 24 hours: Elimination nearly completed

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
- 90-100 minutes - Peak effects Subject becomes introspective
- 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

HGN	None
VGN	None
Lack of Convergence	None
Pupil Size	Dilated (mydriasis)
Reaction to Light	Normal*
Pulse Rate	Up
Blood Pressure	Up
Temperature	Up
Muscle Tone	Normal/Rigid

* Certain psychedelic amphetamines may cause slowing

Drug Evaluation & Classification Training XIV-11

QUESTIONS?

Drug Evaluation & Classification Training

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Kyle Clark, Naples PD	DRE No. 7401	Rolling Log No. 04-09	Session XIV #2
Recorder/Witness: Cpl. Allan Kolak, C.C.P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-DRE-0123

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Warburton, Cindy T.	7/18/82	F	W	Dpty. Darrel Kehne, Collier Co.

Date Examined/Time/Location	Breath Results: ☐ Refused Instrument #	Chemical Test ☐ Refused ☐ Urine ☒ Blood
04/10/04, 2300 hrs, Naples J.C.	13465 0.00%	

Miranda Warning Given: ☒ Yes ☐ No By: Dpty. Kehne	What have you eaten today?	When?	What have you been drinking? How much?	Time of last drink?
	Spaghetti	Lunch	Nothing	N/A

Time now?	When did you last sleep?	How long?	Are you sick or injured?	Are you diabetic or epileptic?
7 p.m.	Yesterday	6 hrs.	☐ Yes ☒ No "I feel hot"	☐ Yes ☒ N

Do you take 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: Distracted, Paranoid
Coordination: Poor, staggering
Breath: Normal
Face: Perspiring

Speech: Rambling, incoherent at times
Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery
Blindness: ☒ None ☐ Left Eye ☐ Right Eye
Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft
Pupil size: ☒ Equal ☐ Unequal, (explain)
Able to follow stimulus: ☒ Yes ☐ No
Eyelids: ☒ Normal ☐ Droopy

Pulse and time
1. 112 / 2310
2. 116 / 2325
3. 116 / 2340

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand: 21 / 17 (Leg Tremors)

Romberg Balance: 0 / 3" / 3" (Tremors)

Walk and Turn test (Leg Tremors)

Cannot keep balance: ✓✓
Starts too soon: ✓

	1st Nine	2nd Nine
Stops walking	✓✓	✓
Misses heel to toe	✓✓✓	✓✓✓✓
Steps off line		✓
Raises arms	Constant →	
Actual # steps	9	8

L	R	
☒	☒	Sways while balancin
☒	☒	Uses arms to balance
☐	☒	Hopping
☒	☒	Puts foot down

Type of footwear: Sandals

Internal clock: 10 Est. as 30 seconds

Describe Turn: Lost balance, stumbled, nearly fell

Cannot do test (explain): N/A

Nasal area: clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	6.0	8.5	5.5
Right	6.0	8.5	5.5

Hippus: ☐ Yes ☒ No
Rebound dilation: ☐ Yes ☒ No
Oral cavity: clear
Reaction to Light: Normal

RIGHT ARM / LEFT ARM — No Visible Marks

Blood pressure: 150 / 102
Temperature: 99.8 °f

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid
Comments:

What medication or drug have you been using?	How much?	Time of use?	Where were the drugs used? (location)
Nothing	N/A	N/A	No answer

Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
04/10/04, 2230 hrs.	2240 hrs.	2300 hrs.	2355 hrs.

DRE signature (include rank)	ID #	Reviewed by
Kyle J Clark	7401	[signature] 16397

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☒ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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: Ofc. David Rencken, Tucson P.D.	DRE No. 5308	Rolling Log No. 2004-04	Session XIV #3
Recorder/Witness: Bob Hohn, NHTSA	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-5463-001428

Arrestee's Name (Last, First MI): Buchanan, Lew B.	DOB: 06/19/66	Sex: m	Race: B	Arresting Officer (Name, ID No.): Ofc. T. McCarthy, T.P.D.

Date Examined/Time/Location: 01-25-04 0115 Central Testing	Breath Results: ☐ Refused Instrument # 1234 0.05%	Chemical Test: ☐ Refused ☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No By: D. Gregory 0117	What have you eaten today? When? Pizza About 6 Pm	What have you been drinking? How much? Couple of Beers	Time of last drink? 8 Pm
Time now? 10 Pm	When did you last sleep? Last Night How long? 3 hrs	Are you sick or injured? ☒ Yes ☐ No I think I might throw up	Are you diabetic or epileptic? ☐ Yes ☒ No
Do you take 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: Withdrawn / Cooperative	Coordination: Very Poor - Staggering	
	Breath: Normal	Face: Dazed / Perspiring Heavily	
Speech: Difficulty in speaking Rambling	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☒ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy

Pulse and time	HGN	Left Eye	Right Eye
1. 116 / 0130	Lack of smooth pursuit	YES	YES
2. 112 / 0147	Maximum deviation	No	No
3. 104 / 0200	Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand: Test Stopped

Romberg Balance: 3" 3" 3" 3" — Circular Sway

Walk and Turn test: Test Stopped Could Not Maintain Stance — Stated that the white line resembled a lazy snake

	1st Nine	2nd Nine
Cannot keep balance	✓✓✓	
Starts too soon:		
Stops walking		
Misses heel to toe		
Steps off line		
Raises arms		
Actual # steps		

L	R	
✓	☐	Sways while balancing
☐	☐	Uses arms to balance
☐	☐	Hopping
✓✓✓	☐	Puts foot down

Type of footwear: Running Shoes

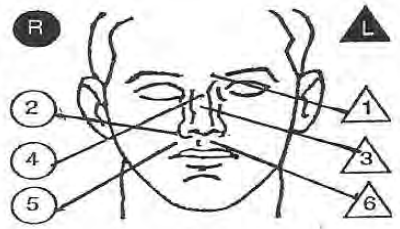
Internal clock: 35 (Est. as 30 seconds)

Describe Turn: N/A

Cannot do test (explain): Stepped off line 3 times during instructions

Nasal area: Clear

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	6.5	9.0	6.0
Right	6.5	9.0	6.0

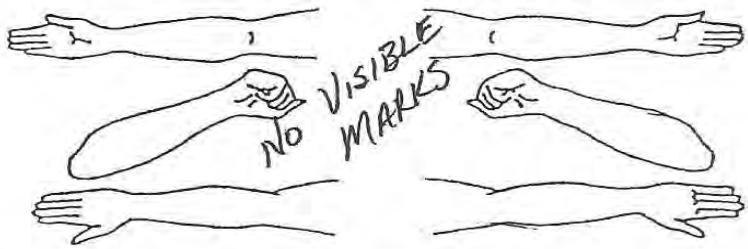
Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: Normal

RIGHT ARM / LEFT ARM



Blood pressure: 146 / 102

Temperature: 100.5°f

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid

Comments: Arms, neck, face rigid

What medication or drug have you been using? How much? Nothing No Answer	Time of use? No Answer	Where were the drugs used? (location) Refused	
Date/Time of Arrest: 01/25/04 0055	Time DRE Notified: 0100	Evaluation Start Time: 0113	Time Completed: 0205
DRE signature (Include rank): [signature]	ID # 4183	Reviewed by: [signature]	[signature] 3024

Opinion of evaluator: ☐ Rule Out ☐ Medical ☒ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☒ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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 Dixson, Chaves Co.	DRE No.: 8744	Rolling Log No.: 05-220	Session XIV #1
Recorder/Witness: Tpr. Michael Champion	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 05-15153

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Hoeckle, Rebecca S.	9-23-62	F	I	Tpr. Michael Champion, NMSP

Date Examined/Time/Location	Breath Results:	Chemical Test
7/28/05, 2030 hrs, Chaves Co. Jail	☐ Refused Instrument # 13340 0.00 %	☒ Urine ☐ Blood ☐ Refused

Miranda Warning Given:	What have you eaten today? When?	What have you been drinking? How much?	Time of last drink?
☒ Yes ☐ No By: Tpr. Champion	"Nothing, I'm fasting"	"I dont drink"	N/A

Time now?	When did you last sleep? How long?	Are you sick or injured?	Are you diabetic or epileptic?
About 7pm"	Last night 6-7 hrs	☒ Yes ☐ No Upset Stomach	☐ Yes ☒ No

Do you take 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: Withdrawn, Distracted

Coordination: Very poor, barely stand

Breath: Sour, rancid

Face: Flushed

Speech: Rapid, stuttering

Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery

Blindness: ☒ None ☐ Left Eye ☐ Right Eye

Tracking: ☒ Equal ☐ Unequal

Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft

Pupil size: ☒ Equal ☐ Unequal, (explain)

Able to follow stimulus: ☒ Yes ☐ No

Eyelids: ☒ Normal ☐ Droopy

Pulse and time
1. 104 / 2040
2. 112 / 2057
3. 104 / 2112

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

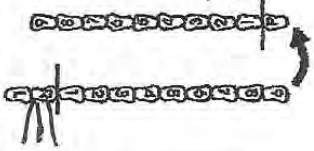
Convergence: Right eye ← → Left eye

One Leg Stand: Test stopped

Romberg Balance: Test stopped

Unable to stand

Walk and Turn test: Test stopped



Cannot keep balance: ✓✓✓

Starts too soon:

	1st Nine	2nd Nine
Stops walking		
Misses heel to toe		
Steps off line		
Raises arms		
Actual # steps		

L	R	
☐	☐	Sways while balancing
☐	☐	Uses arms to balance
☐	☐	Hopping
✓✓✓	☐	Puts foot down

Type of footwear: Moccasins

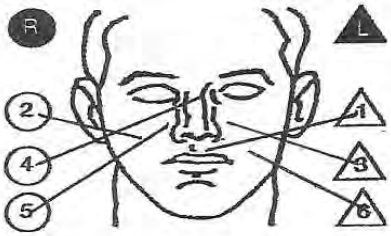
Internal clock: N/A Est. as 30 seconds

Describe Turn: N/A

Cannot do test (explain): Test stopped for safety reasons

Nasal area: Clear

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	7.0	8.5	8.0
Right	7.0	8.5	8.0

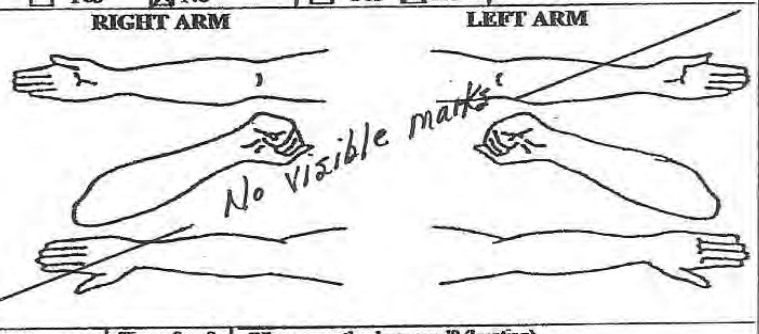
Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: Normal

RIGHT ARM | LEFT ARM



Blood pressure: 148 / 104

Temperature: 100.0 °f

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid

Comments: Rigidity in arms

What medication or drug have you been using? How much?	Time of use?	Where were the drugs used? (location)
"My medium doesn't permit drugs."	N/A	N/A

Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
7/28/05 1930 hrs.	2010 hrs.	2030 hrs.	2135 hrs.

DRE signature (include rank): Sgt. B. Dixson | ID # | Reviewed by: L. Murray Carrol, APS

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☒ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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:

Forty-Five Minutes

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.

Content Segments	Learning Activities
A. Interpretation Demonstrations	o Instructor Led Demonstrations
B. Interpretation Practice	o Small Group Practice
	o Participant Led Presentations

Aids	Lesson Plan	Instructor Notes
 20 Minutes	**PRACTICE: TEST INTERPRETATION**	Total Lesson Time: Approximately 45 Minutes
 XV-1 (Title)		Display Session Title Point out the "Test Interpretation" wall chart.
 XV-2 (Objectives)		Briefly review the objectives, content and activities of this session.
	A. Interpretation Demonstrations	
	1. Case #1: "Subject Adams"	Direct students to review to the "Subject Adams" exemplar in Section XV of their manuals.
	a. Preliminary examination.	Review the results of the Preliminary Examination of Subject Adams. <u>Ask</u> students: "What category or categories of drugs would produce preliminary examination results consistent with this exemplar?" <u>Probe</u> to draw out the bases for students' responses.
	b. Eye examinations.	Review the results of the Eye Examinations of Subject Adams.

Aids	Lesson Plan	Instructor Notes
		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 Adams. Ask students to discuss the category or categories of drugs that would produce these psychophysical test results.
	d. Vital Signs examinations.	Review the results of the Vital Signs Examinations of Subject Adams. Ask students to discuss the category or categories of drugs that would produce these results.
	e. Dark room examinations.	Review the results of the Dark Room Examinations of Subject Adams. Ask students to discuss the category or categories of drugs that would produce these results.
	f. Other evidence and additional observations.	Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Adams.
	g. Narrative report.	Briefly review the narrative report on the reverse side of the "Adams" exemplar. Point out that the DRE's opinion is missing from this sample report.

Aids	Lesson Plan	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.
	h. Opinions of evaluator.	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".	Direct students to review to the "Subject Baker" exemplar.
	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.

Aids	Lesson Plan	Instructor Notes
		Ask students to discuss the category or categories of drugs that would produce these psychophysical test results.
	d. Vital signs examinations.	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.
	e. Dark room examinations.	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.
	f. Other evidence and additional observations	Review the results of the examinations for injection sites and muscle rigidity, and of the final interview of Subject Baker.
	g. Narrative report.	Briefly review the narrative report on the reverse side of the "Baker" 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.

Aids	Lesson Plan	Instructor Notes
	h. Opinions of evaluator.	Point out that the evidence indicates that Subject Baker is under the influence of CNS Stimulants. Solicit students' questions concerning this demonstration.
 25 Minutes	**B. Interpretation Practice**	
	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. o Subject Charles o Subject Dodge	Poll the teams to determine their conclusions concerning the category or categories of drugs present in each subject.

Aids	Lesson Plan	Instructor Notes
	o Subject Edwards	Offer appropriate comments concerning the teams performance.
	2. Session wrap-up.	Solicit students' comments and questions concerning this practice session.

Session XV

Practice: Test Interpretation

XV-1

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

Drug Evaluation & Classification Training

XV-2

QUESTIONS?

Drug Evaluation & Classification Training

DRUG CATEGORIES FOR INTERPRETATION PRACTICE

SUBJECT	CATEGORY(IES)
Adams	CNS Depressant
Baker	CNS Stimulant
Charles	Alcohol only (CNS Depressant)
Dodge	CNS Stimulant
Edwards	Hallucinogen

DRUG INFLUENCE EVALUATION

Evaluator: Dpty. Josh Warner MCSO	DRE No. 7359	Rolling Log No. 04-035	Session XV - I - #1
Recorder/Witness: Dpty. Mark George	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-1005

Arrested's Name (Last, First MI): Adams, Frances A.	DOB: 01-01-65	Sex: M	Race: W	Arresting Officer (Name, ID No.): Dpty. Mark George, BCSO

Date Examined/Time/Location: 10/06/04 10:30pm, Co. Jail	Breath Results: ☐ Refused Instrument # 1235 0.00%		Chemical Test ☐ Refused ☐ Urine ☒ Blood
Miranda Warning Given: ☒ Yes ☐ No By: Dpty. George	What have you eaten today? Hamburger	When? Noon	What have you been drinking? How much? Water
Time now? 9:30 pm	When did you last sleep? Last Night	How long? 5 hrs.	Time of last drink? N/A

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 under the care of a doctor or dentist? ☐ Yes ☒ No	Are you taking any medication or drugs? ☐ Yes ☒ No

Attitude: Cooperative	Coordination: Poor, Stumbling, Staggering	Breath: Normal
Face: Normal	Speech: Slow, Slurred, thick	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery
Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal	Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft
Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☐ Normal ☒ Droopy

Pulse and time

1. 60 / 10:35 pm
2. 56 / 10:52 pm
3. 60 / 11:05 pm

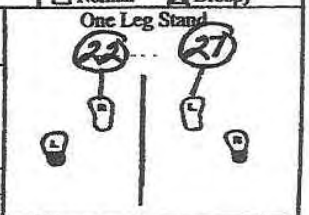
HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	yes	yes
Angle of onset	35°	35°

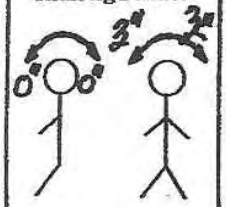
Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

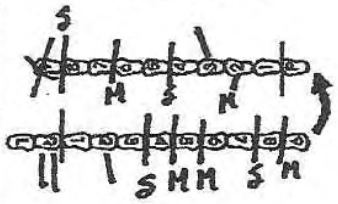
One Leg Stand



Romberg Balance



Walk and Turn test



Cannot keep balance: ✓✓

Starts too soon:

	1st Nine	2nd Nine
Stops walking	✓✓	✓
Misses heel to toe	✓✓✓	✓✓
Steps off line	✓	✓
Raises arms	✓✓✓	✓✓✓
Actual # steps	9	8

L	R	
✓✓✓	✓✓	Sways while balancing
✓✓	✓✓	Uses arms to balance
☐	☐	Hopping
✓	✓	Puts foot down

Type of footwear: Work boots

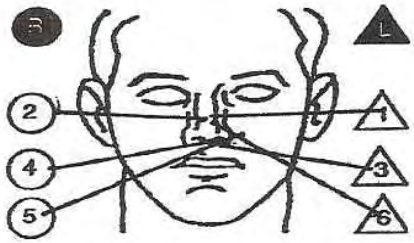
Internal clock: 55 — Est. as 30 seconds

Describe Turn: Turned backwards

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	4.0	6.0	3.0
Right	4.0	6.0	3.0

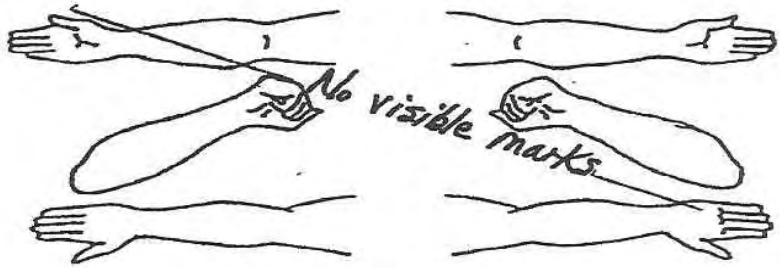
Oral cavity: Clear

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Reaction to Light: Slow

RIGHT ARM / **LEFT ARM**



Blood pressure: 104/64

Temperature: 97.6°f

Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments: Very relaxed

What medication or drug have you been using? "None"	How much? Refused	Time of use? Refused	Where were the drugs used? (location) Refused
Date/Time of Arrest: 10/06/04 9:50 pm	Time DRE Notified: 10:10 pm	Evaluation Start Time: 10:30 pm	Time Completed: 11:30 pm
DRE signature (include rank): Josh Warner, Mesa Co. Sgt	ID #: 290	Reviewed by: Glen Davis, State Coordinator	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☒ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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 difficultly 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

Evaluator: Tpr. Jim Klock | DRE No. 10716 | Rolling Log No. 4-036 | Session XV-I-#2

Recorder/Witness: Sgt. Doug Paquette | Crash: [X] None [ ] Fatal [ ] Injury [ ] Property | Case # 04-232

Arrestee's Name (Last, First MI): Baker, Sam B. | DOB: 10/15/72 | Sex: M | Race: B | Arresting Officer (Name, ID No.): Tpr. Jim Guerriere, NYSP

Date Examined/Time/Location: 07/19/04, 2230, Cooperstown PD | Breath Results: [ ] Refused Instrument # 3201 0.00 % | Chemical Test [ ] Refused [X] Urine [ ] Blood

Miranda Warning Given: [X] Yes [ ] No By: Tpr. Guerriere | What have you eaten today? Milkshake, 3 hrs ago | When? | What have you been drinking? How much? No, nothing | Time of last drink? N/A

Time now? About 8:30pm | When did you last sleep? This morning, 2 hrs. | How long? | Are you sick or injured? [ ] Yes [X] No | Are you diabetic or epileptic? [ ] Yes [X] No

Do you take insulin? [ ] Yes [X] No | Do you have any physical defects? [ ] Yes [X] No | Are you under the care of a doctor or dentist? [ ] Yes [X] No

Are you taking any medication or drugs? [ ] Yes [X] No | Attitude: Cooperative | Coordination: Poor, stumbling

Breath: Rancid | Face: Normal, sweaty

Speech: Rapid slurred at times | Eyes: [ ] Reddened Conjunctiva [X] Normal [ ] Bloodshot [ ] Watery | Blindness: [X] None [ ] Left Eye [ ] Right Eye | Tracking: [X] Equal [ ] Unequal

Corrective lens: [X] None [ ] Glasses [ ] Contacts, if so [ ] Hard [ ] Soft | Pupil size: [X] Equal [ ] Unequal, (explain) | Able to follow stimulus: [X] Yes [ ] No | Eyelids: [X] Normal [ ] Droopy

Pulse and time
1. 108 / 2235
2. 112 / 2246
3. 100 / 2253

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus [ ] Yes [X] No

Convergence: Right eye / Left eye

One Leg Stand: counted to 1040 in 30 seconds (27)

Romberg Balance: 3" 3" 0 0

Walk and Turn test: Walked Rapidly

Cannot keep balance: —
Starts too soon: —

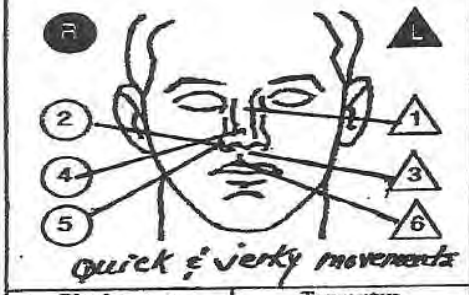
	1st Nine	2nd Nine
Stops walking	✓	
Misses heel to toe		
Steps off line		
Raises arms	✓✓✓	✓✓✓
Actual # steps	9	9

L	R	
[X]	[X]	Sways while balancing
[X]	[X]	Uses arms to balance
[ ]	[ ]	Hopping
[ ]	[X]	Puts foot down

Type of footwear: Athletic Shoes

Internal clock: 15 Est. as 30 seconds | Describe Turn: As instructed | Cannot do test (explain): N/A | Nasal area: Redness, Running nose

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	6.5	8.0	6.0
Right	6.5	8.0	6.0

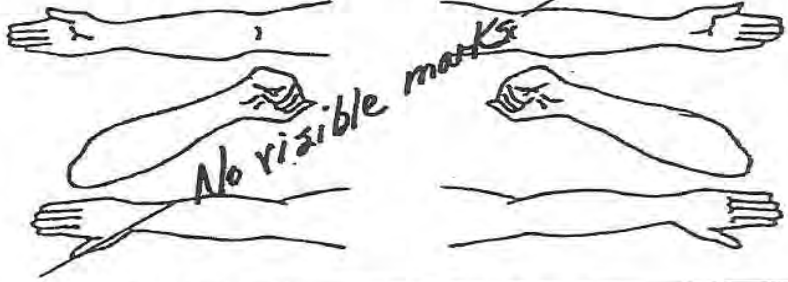
Hippus: [ ] Yes [X] No | Rebound dilation: [ ] Yes [X] No | Oral cavity: Clear | Reaction to Light: Slow

Blood pressure: 142 / 102 | Temperature: 99.7 °f

Muscle tone: [X] Near normal [ ] Flaccid [ ] Rigid

Comments:

RIGHT ARM / LEFT ARM



What medication or drug have you been using? None | How much? No answer | Time of use? N/A | Where were the drugs used? (location) No answer

Date/Time of Arrest: 07/19/04 2130 | Time DRE Notified: 2200 | Evaluation Start Time: 2230 | Time Completed: 2310

DRE Signature (Include rank): Jim Klock | ID # 1509 | Reviewed by: [signature] 7/22/04

Opinion of evaluator: [ ] Rule Out [ ] Medical [ ] Alcohol [ ] CNS Depressant [X] CNS Stimulant [ ] Hallucinogen [ ] Dissociative Anesthetic [ ] Narcotic Analgesic [ ] Inhalant [ ] Cannabis

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 difficultly 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: Sgt. Steve Johnson	DRE No. 2876	Rolling Log No. 04-021	Session XV-I-#3
Recorder/Witness: Trp. H. Jackson, WSP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-10127

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Charles, Mary C.	06/13/72	F	W	Trp. H. Jackson, WSP

Date Examined/Time/Location	Breath Results: ☐ Refused	Chemical Test ☐ Refused
03/17/04, 0045 Olympia Office	Intox Instrument # 212005 0.07%	☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No By: H. Jackson 0046	What have you eaten today? When? Pizza, Last Night	What have you been drinking? How much? "Couple of Beers"	Time of last drink? 9 Pm
Time now? 11:30 P.M.	When did you last sleep? Last Night	How long? 7 hrs.	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 under the care of a doctor or dentist? ☐ Yes ☒ No

Are you taking any medication or drugs? ☒ Yes ☐ No: "Birth Control Pills"

Attitude: Cooperative

Coordination: Poor, Staggering

Breath: Moderate odor of alcoholic beverage

Face: Flushed

Speech: Slurred

Eyes: ☐ Reddened Conjunctiva ☐ Normal ☒ Bloodshot ☐ Watery

Blindness: ☒ None ☐ Left Eye ☐ Right Eye

Tracking: ☒ Equal ☐ Unequal

Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft

Pupil size: ☒ Equal ☐ Unequal, (explain)

Able to follow stimulus: ☒ Yes ☐ No

Eyelids: ☐ Normal ☒ Droopy

Pulse and time

1. 68 / 0050
2. 64 / 0105
3. 72 / 0117

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	YES	YES
Maximum deviation	YES	YES
Angle of onset	40°	40°

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand

8 · 3 · 26

Romberg Balance

2" 2" 2" 2"

Circular Sway

Walk and Turn test

Appeared "Rubber Legged"

m s m

Cannot keep balance: ✓✓

Starts too soon:

	1st Nine	2nd Nine
Stops walking	✓	
Misses heel to toe	✓✓	
Steps off line	✓	
Raises arms	Constant →	
Actual # steps	9	9

	L	R
Stops walking while balancing	☒	☒
Uses arms to balance	☒	☒
Hopping	☐	☐
Puts foot down	☒	☒

Type of footwear: Tennis Shoes

Internal clock: 40 — Est. as 30 seconds

Describe Turn: Lost Balance / Staggered

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	4.5	6.5	3.5
Right	4.5	6.5	3.5

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: Slow

RIGHT ARM / **LEFT ARM**

No Visible Marks

Blood pressure: 110 / 76

Temperature: 98.0 °f

Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? "None, Just My Pill"	How much? No Answer	Time of use? N/A	Where were the drugs used? (location) No Answer
Date/Time of Arrest: 03/17/04 0010	Time DRE Notified: 0025	Evaluation Start Time: 0045	Time Completed: 0125
DRE Signature (include rank): Sgt. Steve Johnson	ID #: 3380	Reviewed by: Carlos Rodriguez, Sgt.	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☒ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ 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. **BREATH 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-I-#4
Recorder/Witness: Darrell Fisher, NSP	Crash: ☐ Fatal ☒ None ☐ Injury ☐ Property		Case # 04-3313
Arrestee's Name (Last, First MI): Dodge, Fred D.	DOB: 10/13/75	Sex: M	Race: W
Arresting Officer (Name, ID No.): Sgt. Dale Hilderbrand, G.I.P.D.			
Date Examined/Time/Location: 02/22/04, 10:15 pm, G.I.P.D.	Breath Results: ☐ Refused Instrument # F3121 0.00%	Chemical Test: ☐ Refused ☐ Urine ☒ Blood	
Miranda Warning Given: ☒ Yes ☐ No By:	What have you eaten today? 2 Tacos	When? 2 hrs ago	What have you been drinking? How much? Nothing N/A
Time of last drink? N/A			
Time now? 11:00 pm	When did you last sleep? Yesterday	How long? 4-5 hrs.	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 under the care of a doctor or dentist? ☐ Yes ☒ No	
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Carefree, Cooperative	Coordination: Poor, Jittery, stumbling	
	Breath: Normal	Face: Normal	
Speech: Rapid	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy

Pulse and time

1. 100 | 10:45 pm
2. 104 | 10:30 pm
3. 100 | 10:42 pm

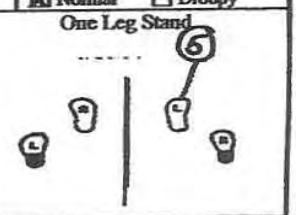
HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

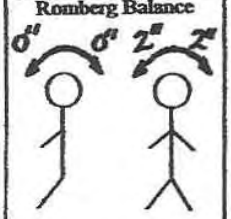
Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

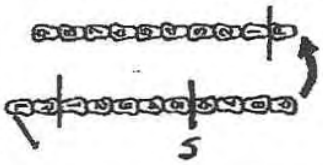
One Leg Stand



Romberg Balance



Walk and Turn test: Walked rapidly



Cannot keep balance	✓
Starts too soon:	✓✓

	1st Nine	2nd Nine
Stops walking	✓	
Misses heel to toe		
Steps off line		
Raises arms	✓✓	✓✓
Actual # steps	9	9

L	R	
✓✓	✓✓	Sways while balancing
☐	☐	Uses arms to balance
☐	☐	Hopping
☐	☒	Puts foot down

Type of footwear: Street shoes

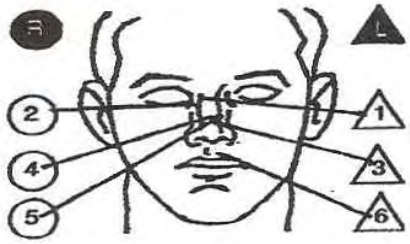
Internal clock: 15 Est. as 30 seconds

Describe Turn: As instructed

Cannot do test (explain): N/A

Nasal area: Redness

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	6.0	8.5	6.0
Right	6.5	8.5	6.0

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: Slow

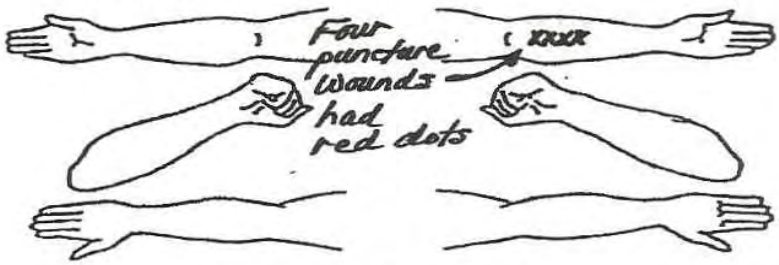
Blood pressure: 140/96

Temperature: 99.5 °f

Muscle tone: ☒ Near normal ☐ Flaccid ☐ Rigid

Comments:

RIGHT ARM / **LEFT ARM**



What medication or drug have you been using? None	How much? N/A	Time of use? No answer	Where were the drugs used? (location) No answer
Date/Time of Arrest: 2/22/04, 9:25 pm	Time DRE Notified: 10:00 pm	Evaluation Start Time: 10:15 pm	Time Completed: 11:20 pm
DRE Signature (include rank): Dave Anderson	ID #: 303	Reviewed by: [signature]	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☒ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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 DUI.

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

Evaluator: Sgt. Hans Lehman, L.P.D. | DRE No. 8837 | Rolling Log No. 04-018 | Session XV-I-#5

Recorder/Witness: Lt. Teri Dioquino, P.C.S.O | Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property | Case # 04-001701

Arrestee's Name (Last, First MI): Edwards, Joan E. | DOB: 01/16/84 | Sex: F | Race: W | Arresting Officer (Name, ID No.): R. Floyd, L.P.D. #290

Date Examined/Time/Location: 10/04/04, 2300 hrs, Lakeland P.D. | Breath Results: ☐ Refused Instrument # 41478, 0.00% | Chemical Test ☐ Refused ☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No By: Ofc. Floyd | What have you eaten today? Nothing | When? N/A | What have you been drinking? How much? Nothing N/A | Time of last drink? N/A

Time now? "Dont Know" | When did you last sleep? Hours long? "I dont remember" | Are you sick or injured? ☒ Yes ☐ No "Sick to my stomach" | Are you diabetic or epileptic? ☐ Yes ☒ No

Do you take 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: Dazed, but cooperative | Coordination: Poor, unsteady

Breath: Normal | Face: Sweaty, dazed appearance

Speech: Rambling, slurred | Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery | Blindness: ☒ None ☐ Left Eye ☐ Right Eye | Tracking: ☒ Equal ☐ Unequal

Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft | Pupil size: ☒ Equal ☐ Unequal, (explain) | Able to follow stimulus: ☒ Yes ☐ No | Eyelids: ☒ Normal ☐ Droopy

Pulse and time
1. 100 / 2310
2. 108 / 2325
3. 104 / 2337

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus: ☐ Yes ☒ No

Convergence: Right eye / Left eye

One Leg Stand

Test stopped

Romberg Balance

1" 1" 3" 3"

Walk and Turn test

Cannot keep balance: ✓✓

Starts too soon:

	1st Nine	2nd Nine
Stops walking	✓✓✓	✓✓
Misses heel to toe	✓✓✓✓✓✓	✓✓✓✓✓
Steps off line	All steps	
Raises arms	✓✓✓	✓✓✓
Actual # steps	10	9

	L	R
Sways while balancing	☐	☐
Uses arms to balance	☒	☒
Hopping	☐	☐
Puts foot down	☒	☒

Type of footwear: Flip-Flops

Internal clock: 90 Est. as 30 seconds

Describe Turn: Turned wrong direction

Cannot do test (explain): Kept stopping

Nasal area: Clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	6.5	8.5	6.5
Right	6.5	8.5	6.6

Oral cavity: Clear

Hippus: ☐ Yes ☒ No | Rebound dilation: ☐ Yes ☒ No | Reaction to Light: Normal

RIGHT ARM **LEFT ARM**

None visible

Blood pressure: 150 / 110 | Temperature: 100.0 °F

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid

Comments: Very rigid arms

What medication or drug have you been using? "Nothing" | How much? No answer | Time of use? No answer | Where were the drugs used? (location) No answer

Date/Time of Arrest: 10/04 2235 hrs. | Time DRE Notified: 2245 | Evaluation Start Time: 2300 | Time Completed: 2355

DRE signature (include rank): Hans Lehman | ID #: 8837 | Reviewed by: Teri Dioquino 10/19/04

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☒ Hallucinogen ☐ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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 difficultly 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.

One Hour and Forty Minutes

SESSION XVI

DISSOCIATIVE ANESTHETICS

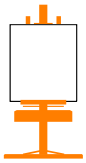
SESSION XVI DISSOCIATIVE ANESTHETICS

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.

Content Segments	Learning Activities
A. Overview of Dissociative Anesthetics	o Instructor Led Presentations
B. Possible Effects of Dissociative Anesthetics	o Review of DEC Exemplars
C. Onset and Duration of Effects	o Reading Assignments
	o Video Presentations
D. Signs and Symptoms of Dissociative Anesthetics Overdose	o Slide Presentations
E. Expected Results of the Evaluation	

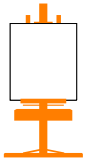
Aids	Lesson Plan	Instructor Notes
 25 Minutes	**DISSOCIATIVE ANESTHETICS**	Total Lesson Time: Approximately 100 Minutes Display Session Title
 XVI-1 (Title)		
 XVI-2A-C (Objectives)		Briefly review the objectives, content and activities of this session.
 XVI-3 (Overview of Dissociative Anesthetics)	**A. Overview of the Category** 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.	Point out that this category was changed from PCP to Dissociative Anesthetics by the IACP DRE Technical Advisory Panel in September 2005. Point out that the term "Dissociative Anesthesia" is derived from the strong feeling of dissociation from the environment that is expected by the user. PCP was the first drug used for this purpose.
	2. Phencyclidine or PCP, is a drug that, along with it's analogs, are examples of this distinct drug category.	The chemical name for PCP is Phenyl Cyclohexyl Piperidine.

Aids	Lesson Plan	Instructor Notes
	a. PCP shares some characteristics with each of the three categories of drugs previously covered in this training.	Write the chemical name on the dry erase board or flip-chart, underlining the first "P", the first "C" and the last "P". <u>Point out</u> that PCP and it's analogs have often been referred to as "psychedelic anesthetics" because of the bizarre and varying effects they can cause. <u>Point out</u> that "Phencyclidine" is a contraction, or shortened form of the chemical name. <u>Point out</u> that an "analog" is a chemical that is very similar to the drug in terms of molecular structure or in psychoactive effects.
	(1) It produces some effects that are similar to the effects of CNS Depressants.	Examples of effects PCP shares with Depressants: Nystagmus, slurred speech, slowed responses.
	(2) It produces some effects that are similar to those of CNS Stimulants.	Examples of effects PCP shares with CNS Stimulants: elevated vital signs and restlessness.
 XVI-4A&B (PCP History)	(3) In some respects it acts like a Hallucinogen.	<u>Point out</u> that in many medical texts and other reference documents, PCP may be classified as a Hallucinogen. However, for purposes of the DEC Program, it is placed in the Dissociate Anesthetics category.
	b. Phencyclidine was first developed in the late 1950s.	Developed by Parke-Davis and Company, a leading pharmaceutical firm.

Aids	Lesson Plan	Instructor Notes
	(1) The developers were searching for a drug that would serve as an efficient intravenous anesthetic.	
	(2) PCP proved to be a very effective anesthetic.	An anesthetic is an agent that reduces or abolishes sensation.
	(3) It was patented and marketed in 1963 under the trade name Sernyl.	Sernyl derives from the word serene, the apparent mood induced by PCP. However, the PCP user often is very far from "serene".
	(4) It was used in the treatment of mental and psychological disorders, including schizophrenia and alcoholism.	
	(5) Many adverse side effects were experienced by persons who had been treated with PCP.	Point out that some of these side effects will be discussed later.
	(6) In 1967, use of Phencyclidine as an anesthetic for humans was discontinued.	
	(7) In 1968, Parke-Davis re-patented PCP under the trade name Sernylan, which was restricted to use as a veterinary anesthetic.	Sernyl for animals = Sernylan. Point out that this is why PCP sometimes goes by the "street" names "Monkey Dust"; "Elephant Tranquilizer"; "Horse Tranquilizer"; etc.
	(8) However, Sernylan was often illicitly diverted to "street" use, so most legitimate manufacturing of PCP was stopped in 1978.	

Aids	Lesson Plan	Instructor Notes
	c. PCP is relatively easy to manufacture.	
	(1) The chemicals required to produce it are readily available commercially.	
	(2) The formula for producing PCP has been widely publicized.	Emphasize, however, that there is some danger present in the manufacturing process. Illicit PCP laboratories frequently explode and burn. Note that PCP labs commonly contain potassium cyanide and hydrochloric acid. If combined, those two chemicals produce the same lethal gas used in gas chambers designed for executions.
	(3) The hardware needed to combine the chemicals is very basic.	Emphasize that officers should exercise great caution when they discover an illicit PCP lab. Review the policy and procedures of the students' department for dealing with PCP labs and materials.
 XVI-5A&B (PCP Street Names)	d. Street names for PCP - "angel dust", "crystal", "sherms", "elephant tranquilizer", and "water"	
 XVI-6 (PCP Ingestion)	e. Methods of ingestion (1) Many users ingest PCP by smoking.	If available, display slides of the various PCP ingestion paraphernalia.

Aids	Lesson Plan	Instructor Notes
	(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.	NOTE: Liquid PCP is especially dangerous because it can be absorbed through the skin. Hence, it could be used as a weapon.
	(b) Popular substances include mint leaves, parsley, oregano, tobacco or Marijuana.	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.
	(c) Commercially prepared cigarettes can also be dipped in liquid PCP, allowed to dry and then smoked.	NOTE: PCP adulterated cigarettes usually will be wrapped in metal foil to be preserved.
	(d) Some users prefer to dip a string in liquid PCP, and then insert the string into a tobacco cigarette.	Point out that "Kool" and "Sherman" brand cigarettes are popular for this, because they are mentholated. PCP-adulterated cigarettes are sometimes called "Super Kools" or "Sherms". NOTE: White cigarette paper will be stained brown if adulterated with PCP. Brown cigarette paper will show white crystals, when adulterated.
	(2) PCP can also be insufflated or "snorted".	
	(3) It can also be taken orally, in capsule or tablet form.	
	(4) Some users inject liquid PCP, either directly into a vein, under the skin or into a muscle.	

Aids	Lesson Plan	Instructor Notes
	(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).	Re-emphasize the danger to officers handling suspected drugs without proper protective gloves. Solicit students' questions and comments about the overview of PCP.
 XVI-7A (Ketamine)	3. Another drug in this category is called Ketamine. It continues to be manufactured and sold legitimately.	Write Ketamine on the dry erase board or flip-chart. Ketamine is a white, crystalline powder or clear liquid.
 XVI-7B (Ketamine Street Names)	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”.	Some brand names of Ketamine: Ketalar, Ketaject, Ketaset, and Vetalar.
 XVI-7C (Ketamine Ingestion)	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	

Aids	Lesson Plan	Instructor Notes
	then be smoked in a pipe or home made cigarette. (b) Popular substances include mint leaves, parsley, oregano, tobacco or Marijuana. c) Commercially prepared cigarettes can also be dipped in liquid Ketamine, allowed to dry and then smoked. (d) Some users prefer to dip a string in liquid Ketamine, and then insert the string into a tobacco cigarette.	
 XVI-8A (DXM)	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. a. DXM is a synthetically produced substance that is chemically related to Codeine, although it is not an opiate. 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.	Point out that DREs frequently encounter persons abusing DXM due to it's availability in so many over-the-counter products. Point out 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. Point out that DXM is often in other over-the-counter substances containing Acetaminophen, Chlorpheniramine and Guaifenesin.

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"	
 XVI-8C (DXM Ingestion)	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:	
 XVI-9A (PCP 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.

Aids	Lesson Plan	Instructor Notes
	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.	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.
	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.	

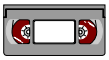
Aids	Lesson Plan	Instructor Notes
	a. One young man methodically pulled his own teeth out, using a pair of pliers.	Point out that PCP can render the user impervious to pain. It anesthetizes the central nervous system to the extent that surgery could be performed on the user while he or she is wide awake.
	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.	Source: Washington Post, March 7, 1988.
	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:	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.
	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.

Aids	Lesson Plan	Instructor Notes
	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.	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.
	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.	Acute dose between 250-1500 mg.
XVI-9B (On-set and Duration)	**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.	

Aids	Lesson Plan	Instructor Notes
	f. The user usually, but not always returns to normal within 24-48 hours.	
	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 it's relatively short duration of action.
 XVI-10A (DXM On-set)	3. Dextromethorphan (DXM)	
	a. Rapidly absorbed from the gastrointestinal tract and peak plasma concentrations are reached in approximately 2.5 hours.	Point out that Dextromethorphan is demethylated to dextrophan, an active metabolite.
	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.	Solicit students' questions and comments concerning onset and duration factors.

Aids	Lesson Plan	Instructor Notes
 5 Minutes	**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.
 XVI-11A-C (Expected Results)	**E. Expected Results of the Evaluation** 1. Horizontal Gaze Nystagmus generally will be present with a very early angle of onset.	

Aids	Lesson Plan	Instructor Notes
	2. Vertical Gaze Nystagmus usually will be present.	NOTE: So-called "Resting Nystagmus" may be evident, especially with high doses.
	3. Lack of convergence will generally be present	That is a distinct jerking of the eyeballs even as the suspect stares straight ahead.
	4. Performance on Romberg will be impaired: Internal clock may be slowed.	
	5. Performance on Walk and Turn, One Leg Stand, and Finger to Nose will be impaired: muscle tone will usually be rigid.	With PCP, the ubject may exhibit a “high gait ataxia” or "moon walking", i.e. taking abnormally high and slow steps, as though he or she were trying to step over obstacles in his or her path.
	6. Blood pressure will generally be elevated	
	7. Pulse rate will generally be elevated	
	8. Body temperature will generally be up.	
	9. Pupil size will be normal	
	10. Reaction to light will be normal	
XVI-12A (General Indicators)	11. General indicators o Blank stare o Confused o Chemical odor (PCP) o Cyclic behavior (PCP) o Difficulty with speech o Disoriented o Early HGN angle of onset	
	o Hallucinations o Increased pain threshold (PCP)	Note: Especially auditory hallucinations

Aids	Lesson Plans	Instructor Notes
	o Incomplete verbal responses o Loss of memory o "Moonwalking" (PCP) o Non-communicative o Rigid muscle tone (PCP) o Perspiring (PCP) o Possibly violent (PCP) o Sensory distortions	NOTE: PCP abusers may display "Cyclic behaviors" which mean that the signs and symptoms tend to increase and decrease cyclically.
	F. Summary	
XVI12B (Symptomology Chart)	1. Expected Results of the Evaluation	
	2. When a DRE concludes that a subject is impaired by a Dissociate Anesthetic, such as PCP or DXM, the report should state that "the subject is under the influence of a Dissociative Anesthetic."	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.
	3. Demonstrations	Show video of subject(s) under the influence of PCP. Relate behavior and observations to the drug Symptomatology Chart.
	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. 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

XVI-1

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

Drug Evaluation & Classification Training XVI-2A

Dissociative Anesthetics
(Continued)

- Describe the symptoms, observable signs and other effects associated with this drug category
- Explain the typical time parameters, i.e. on-set and duration of effects associated with this drug category

Drug Evaluation & Classification Training XVI-2B

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

Drug Evaluation & Classification Training XVI-2C

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

Drug Evaluation & Classification Training XVI-3

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

Drug Evaluation & Classification Training XVI-4A

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"

Drug Evaluation & Classification Training XVI-4B

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

Drug Evaluation & Classification Training XVI-5A

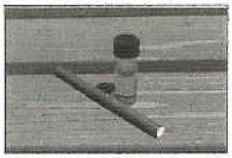
More "Street Names" for PCP

- 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

Drug Evaluation & Classification Training XVI-5B

Methods of Ingestion for PCP and its Analogs

- Smoking
- Orally
- Injection
- Eyedropper
- Insufflation (inhaling; snorting)



Drug Evaluation & Classification Training XVI-6

Ketamine

- Used as a rapid surgical anesthetic in both animals and humans
- Also used for burn victims

Drug Evaluation & Classification Training XVI-7A

"Street Names" for Ketamine

- "K"
- "Special K"
- "Vitamin K"
- "Jet"
- "Super acid"
- "Kit Kat"
- "Lady K"
- "Kitty"
- "Cat Valium"
- "Super K"

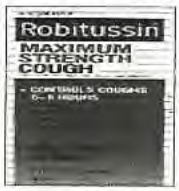
Drug Evaluation & Classification Training XVI-7B

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

<u>On-set</u>
Smoked: 1-5 minutes
Injected: 1-5 minutes
Snorted: 2-3 minutes
Orally: 30-60 minutes

<u>Peak effects</u>
Generally in 15-30 minutes

<u>Duration</u>
4-6 hours

On Set 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

Drug Evaluation & Classification Training XVI-10A

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

Drug Evaluation & Classification Training XVI-11A

Evaluation of Subjects Under the Influence of PCP and its Analogs

Vital Signs:

- Blood pressure - up
- Pulse - up
- Body temperature – up

Drug Evaluation & Classification Training XVI-11B

Evaluation of Subjects Under the Influence of PCP and its Analogs

Dark Room:

- Pupil size - normal
- Pupillary reaction to light - normal

Drug Evaluation & Classification Training XVI-11C

Evaluation of Subjects Under the Influence of Dissociative Anesthetics

General Indicators:

- Blank stare
- Confused
- Chemical odor (PCP)
- Disorientated
- Incomplete verbal responses
- Loss of memory
- Non-communicative
- Perspiring (PCP)
- Rigid muscle tone (PCP)
- Self-reported hallucinations
- Sensory distortions
- Slurred and repetitive speech

Drug Evaluation & Classification Training XVI-12A

Dissociative Anesthetics Symptomatology Chart

HGN	Present
VGN	Present
Lack of Convergence	Present
Pupil Size	Normal
Reaction to Light	Normal
Pulse Rate	Up
Blood Pressure	Up
Temperature	Up
Muscle Tone	Rigid (PCP)

Drug Evaluation & Classification Training XVI-12B

4

QUESTIONS?

Drug Evaluation & Classification Training

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Gerry Britt, Yarmouth P.D.	DRE No.: 5479	Rolling Log No.: 05-12-002	Session XVI - #1
Recorder/Witness: Dr. Jack Richman	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case #: 388661

Arrestee's Name (Last, First MI): Ross, Robert H.	DOB: 9-06-79	Sex: M	Race: W	Arresting Officer (Name, ID No.): Sgt. Deb Batista, Middleboro PD

Date Examined/Time/Location: 12/08/04, 2145 hrs, Middleboro P.D.	Breath Results: ☐ Refused Instrument # 12838 0.00 %	Chemical Test ☐ Refused ☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No By: Sgt. Batista	What have you eaten today? Chicken	When? 6 am	What have you been drinking? How much? Nothing	Time of last drink? N/A

Time now? 8 o'clock	When did you last sleep? Yesterday How long? 6 hrs.	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic or epileptic? ☐ Yes ☒ N

Do you take 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: Passive, cooperative	Coordination: Poor, staggering
	Breath: Chemical odor	Face: Flushed & sweaty

Speech: Slurred, slow & low	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy

Pulse and time

1. 100 12150
2. 108 12204
3. 100 12217

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	yes	yes
Angle of onset	immediate	immediate

Vertical Nystagmus ☒ Yes ☐ No

Convergence: Right eye / Left eye

One Leg Stand

Test stopped

Test stopped

Romberg Balance

3" 3" 3" 3"

Circular Sway

Walk and Turn test

Cannot keep balance	✓
Starts too soon:	✓

	1st Nine	2nd Nine
Stops walking	✓	✓
Misses heel to toe	All	All
Steps off line	✓	✓
Raises arms	✓✓✓	✓✓
Actual # steps	9	9

L	R	
☑	☑	Sways while balancin
☑	☑	Uses arms to balance
☐	☐	Hopping
☑	☑	Puts foot down

Type of footwear: Athletic shoes

Internal clock: 45 Est. as 30 seconds	Describe Turn: Swiveled in one abrupt motion.	Cannot do test (explain): N/A	Nasal area: Clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	4.0	6.0	3.5
Right	4.0	6.0	3.5

Oral cavity: Chemical odor Clear.

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Reaction to Light: Normal

RIGHT ARM **LEFT ARM**

No visible marks

Blood pressure: 146/100	Temperature: 99.8 °f

Muscle tone: ☐ Near normal ☐ Flaccid ☒ Rigid

Comments: Very rigid arms

What medication or drug have you been using? Nothing	How much? N/A	Time of use? No answer	Where were the drugs used? (location) No answer

Date/Time of Arrest: 12/08/04, 2100 hrs.	Time DRE Notified: 2120	Evaluation Start Time: 2145	Time Completed: 2220
DRE signature (Include rank): Gerry Britt	ID #: 5479	Reviewed by: J. Decker	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☒ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ 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: Ofc. Steve Dunn, Anchorage PD	DRE No.: 11281	Rolling Log No.: 05-5-33	Session XVI-#2
Recorder/Witness: Ofc. D. Pollock, A.P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 05-18430
Arrestee's Name (Last, First MI): Albright, Jeremy J.	DOB: 4-10-86	Sex: M	Race: W	Arresting Officer (Name, ID No.): Ofc. Pollock, A.P.D., 1374
Date Examined/Time/Location: 04-30-05, 1420 hrs, 4th Ave. Sub.	Breath Results: ☐ Refused Instrument # 75470 0.00%	Chemical Test ☐ Refused ☐ Urine ☒ Blood	
Miranda Warning Given: ☒ Yes ☐ No By: Ofc. Pollock	What have you eaten today? When? Cheese Burger & Fries, 11am	What have you been drinking? How much? Water N/A	Time of last drink? N/A
Time now? "1:30 pm" (1427)	"When did you last sleep?" "Night before last"	How long? 1-2 hrs	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 under the care of a doctor or dentist? ☐ Yes ☒ No	
Are you taking any medication or drugs? ☐ Yes ☒ No	Attitude: Cooperative	Coordination: Slow & Deliberate	
	Breath: Normal	Face: Flushed	
Speech: Slurred	Eyes: ☒ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy

Pulse and time

1. 110 / 1430
2. 120 / 1446
3. 110 / 1501

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	yes	yes
Angle of onset	Immediate	Immed.

Vertical Nystagmus ☒ Yes ☐ No

Convergence: Right eye, Left eye

One Leg Stand

Leg Tremors

Romberg Balance

2" 2" 2" 2"

Walk and Turn test

M M

Cannot keep balance: ✓

Starts too soon:

	1st Nine	2nd Nine
Stops walking		
Misses heel to toe		✓✓
Steps off line		
Raises arms		
Actual # steps	9	9

L	R	
☑	☑	Sways while balancing
☐	☑	Uses arms to balance
☐	☐	Hopping
☐	☐	Puts foot down

Type of footwear: Tennis Shoes

Internal clock: 29 (Est. as 30 seconds)

Describe Turn: Shuffled feet

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched

Pupil Size	Room Light	Darkness	Direct
Left	7.0	8.5	5.0
Right	7.0	8.5	5.5

Oral cavity: Clear

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Reaction to Light: Normal

RIGHT ARM **LEFT ARM**

None visible

Blood pressure: 152/100

Temperature: 99.7°f

Muscle tone: ☒ Near normal ☐ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? Coricidin	How much? 24 pills	Time of use? Last night	Where were the drugs used? (location) Friend's House
Date/Time of Arrest: 04-30-05, 1300 hrs.	Time DRE Notified: 1350	Evaluation Start Time: 1420 hrs.	Time Completed: 1515 hrs.
DRE signature (Include rank): Steve Dunn	ID #: 1361	Reviewed by: [illegible] 5/2/05	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☒ Dissociative Anesthetic ☐ Narcotic Analgesic ☐ Inhalant ☐ 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.

Three Hours

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.

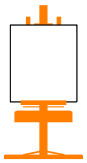
Content Segments	Learning Activities
A. Overview of the Category	o Instructor Led Presentations
B. Possible Effects	o Review of Drug Evaluation and Classification Exemplars
C. On-Set and Duration of Effects	o Reading Assignments
D. Overdose Signs and Symptoms	o Video Presentations
E. Expected Results of the Evaluation	o Slide Presentations
F. Injection Site Examination	
G. Expected Location of Injection Marks	
H. Conclusion	

Aids	Lesson Plan	Instructor Notes
 25 Minutes	**NARCOTIC ANALGESICS**	Total Lesson Time: Approximately 180 Minutes Display Session Title
 XVII-1 (Title)	**A. Overview of the Category**	Briefly review the objectives, content and activities of this session.
 XVII-2A&B (Objectives)		Point out that this category sometimes is called "The Opioids"; the drugs it contains either are found in Opium, or derive chemically from Opium, or produce effects similar to those of the Opium Derivatives. The term "Opioid," however, most correctly refers to the synthetic subcategory of Narcotic Analgesics.
 XVII-3 (Narcotic Analgesics Defined)	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 <u>NOT</u> 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.

Aids	Lesson Plan	Instructor Notes
	d. A Narcotic is a drug derived from Opium, or produced synthetically that relieves pain, but also induces euphoria, alters mood, and produces sedation.	
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. (a) The natural alkaloids and the Opium Derivatives all come from <u>Opium</u>, which is sap from the seed pods of a particular type of poppy.	Opium derivatives are obtained by chemically treating the Opium alkaloid. Opium Derivatives are therefore derived from Opium. <u>NOTE</u>: 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

Aids	Lesson Plan	Instructor Notes
		(wheat flour which has been chemically treated)
	b. Synthetics, which do not derive from Opium at all, but have similar or identical effects as Opium alkaloids and derivatives.	Point out that the synthetic Narcotic Analgesics are produced from a variety of non-opiate substances. Again, these are sometimes called "Opioids".
XVII-5 (Characteristics of Narcotic Analgesics)	3. Narcotic Analgesics all share three characteristics.	
	a. They will relieve pain.	Clarification: They produce analgesia.
	b. They will produce withdrawal signs and symptoms when the user is physically dependent, and drug use is stopped.	<u>Clarification</u>: Physical dependence results from "chronic administration." This means that the drug has been taken at fairly regular intervals for a period of time.
	c. They will suppress the withdrawal signs and symptoms of chronic morphine administration.	Morphine is typically used as the standard for comparison with other Narcotic Analgesics. <u>Clarification</u>: This means that the various Narcotic Analgesics can be substituted for each other to relieve withdrawal symptoms.
XVII-6 (Commonly Abused Opiates)	4. Some commonly abused <u>Opiates</u>.	<u>Point out</u> the chart is located on page XVII-2 of the student manual.
	a. Powdered Opium (also known as smoking Opium) o a simple refinement of raw Opium.	

Aids	Lesson Plan	Instructor Notes
	o used medically to treat diarrhea (administered orally) o remains popular as a drug of abuse (smoked) among some Asian-American communities.	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.
	b. <u>Hydrocodone</u> is derived from Codeine but is more closely related to Morphine in its pharmacological profile. Examples include: o Hycodan o Vicodin o Lortab	Point out that Hydrocodone products are the most frequently prescribed pharmaceutical opiate (Narcotic Analgesic) with over 111 million prescriptions dispensed in 2003. (DEA) Note: Vicodin is a commonly prescribed pain reliever containing Hydrocodone and Acetaminophen.
	c. <u>Morphine</u>, the principal natural alkaloid of Opium. o Morphine was first isolated from Opium in 1805. o used medically to suppress severe pain (e.g., with terminal cancer patients). o highly addictive o at one time, Morphine was the most commonly abused Narcotic Analgesic.	Instructor, FYI: Named after Morpheus, the Greek God of dreams. Morphine was widely used during the Civil War. Morphine addiction was termed "Soldier's disease."
	d. <u>Codeine</u> is another natural alkaloid of Opium. o first isolated in 1832.	Its technical name is Methylmorphine.

Aids	Lesson Plan	Instructor Notes
	o Codeine's pain killing ability is much weaker than Morphine's.	
	o used medically to suppress coughing or minor pain.	
	o Codeine is definitely an addictive drug.	Clarification: Narcotic Analgesic addicts often turn to Codeine when they cannot get more popular drugs.
	e. Heroin is the most commonly abused illicit Narcotic Analgesic.	Point out that the generic, or technical name for heroin is "Diacetyl Morphine".
	o derived from Morphine in 1874.	
	o Heroin was first thought to be a non-addictive substitute for Morphine.	Write "Diacetyl Morphine" on the dry erase board or flip-chart.
	o it was approved for general use by the American Medical Association in 1906.	
	o by the 1920's it was evident that Heroin was much more addictive than Morphine.	
	o importation and manufacture of Heroin have been illegal in this country since 1925.	Heroin is a Schedule I drug, which means it has no legitimate medical uses in the United States.
	f. Dilaudid is another derivative of Morphine	Technical Name: Hydromorphone Hydrochloride.
	o first produced in 1923.	

Aids	Lesson Plan	Instructor Notes
	o sometimes called "drug store Heroin", since it is commercially available from medical and pharmaceutical sources. o Dilaudid has the same addictive liabilities as does Heroin or Morphine. o used medically for short term relief of moderate to severe pain, and to suppress severe, persistent coughs. o can be ingested via injection, orally or in suppositories. o used medically to treat coughs. o sometimes abused by addicts who are unable to obtain Morphine or Heroin.	
	g. <u>Numorphan</u> o Used medically for the relief of chronic pain. o sold in ampules (injection) and in suppositories. 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.	Technical Name: Oxymorphone

Aids	Lesson Plan	Instructor Notes
	h. <u>Oxycodone</u> is a semi-synthetic narcotic produced by chemically treating Thebaine. It is somewhat less addictive than Morphine, but more than Codeine. Two examples are:	Technical Name: Oxycodone.
	o Percodan is one of the most commonly prescribed Narcotic Analgesics.	It is also produced under the brand name of "Percocet which is Percodan combined with Acetaminophen, such as Tylenol.
	o OxyContin is a controlled-released tablet that contains large amounts of Oxycodone (10 to 160 mg). Abusers learn to circumvent the slow-release mechanism.	Street names: “Oxy”, “OC”, “Killer”
VII-7 (Common Synthetic Opiates)	5. Some common <u>Synthetic Opiates</u>	
	a. <u>Demerol</u> was first produced in 1939.	
	o Demerol is one of the most widely used Synthetic Opiates for relief of pain and for sedation.	Technical Name: Meperidine.
	o It is also one of the Narcotic Analgesic that is most frequently abused by medical personnel.	

Aids	Lesson Plan	Instructor Notes
	o Demerol is widely used as an analgesic in childbirth.	
	o 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.	
	o Medical literature sometimes indicates that Demerol does not cause pupillary constriction. Enforcement experience indicates to the contrary.	Point out that pupillary constriction ordinarily is one of the most reliable indicators of a Narcotic Analgesic.
	b. Methadone was developed in Germany during World War II and first marketed in America in 1947.	Methadone was developed in Germany because of wartime shortages of Morphine. Some experts have stated that the brand name for Methadone, "Dolophine," was derived from Adolph Hitler.
	o Methadone's effects are similar to Morphine's, although they develop more slowly and last longer than do Morphine's effects.	
	o Methadone's withdrawal symptoms are slower and milder than are Morphine's.	Ask students: "What is one of the most common medical uses of Methadone in this country?"
	o Used extensively in "maintenance programs" as a substitute for Heroin for addicts	Remind students that one characteristic shared by all Narcotic Analgesics is that they suppress withdrawal

Aids	Lesson Plan	Instructor Notes
	undergoing therapy and treatment.	symptoms of chronic Morphine administration.
	o In theory, the daily dose of Methadone given to a Heroin addict allows the addict to function normally with no physical need for up to 24 hours.	Methadone's primary advantages are: it cannot be injected, and it has a much longer duration of effects than Heroin.
	o Methadone is also used medically to relieve moderate to severe pain, and to suppress coughing.	
	c. The Fentanyls include several hundred "designer drug" analogs of Morphine.	"Sublimaze" is a brand name for Fentanyl. It is a Schedule II drug. It is frequently found in overdose situations. For example, "Tango and Cash" and "Goodfellas", which contained Fentanyl, were sold in New York City in 1990 as Heroin. Many fatal overdoses occurred as a result.
	o first developed in 1965 as an intravenous anesthetic.	
	o legally produced as a pain killer.	
	o principal abused analog is "Three-Methyl Fentanyl".	
	d. MPPP is an illegally manufactured analog of Demerol.	
	o MPPP is a powerfully addictive synthetic Narcotic Analgesic.	
	o At times, MPPP has been contaminated with MPTP, a chemical producing paralysis similar to Parkinson's Disease.	Instructor, FYI: Parkinson's disease is a progressive neurological disorder characterized by resting tremors, shuffling gait, and muscle weakness.

Aids	Lesson Plan	Instructor Notes
	e. Darvon is a synthetic Narcotic of relatively low analgesic potency and relatively low addiction liability.	Technical Name: Propoxyphene.
	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)	Users have stated that the fear of contracting diseases, such as AIDS, from shared needles, has prompted them to either snort or smoke Heroin.
	d. Some are often administered in suppositories.	
	e. Medically, some Narcotic Analgesics may be administered transdermally or through the skin.	If available, show slides of Heroin injection paraphernalia.
	f. Heroin, and some others, usually are taken by injection.	
		Solicit students' comments and questions concerning this overview of Narcotic Analgesics.

Aids	Lesson Plan	Instructor Notes
 5 Minutes **XVII-8** (Concept of Tolerance)	**B. Possible Effects** 1. As with nearly all the drugs of abuse, the effects produced by heroin or other Narcotic Analgesics depend on the <u>tolerance</u> 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. 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. d. Impairment is more evident with new users, and with tolerant users who exceed their "normal" doses.	Emphasize: Habitual users of drugs may develop <u>tolerance</u> to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even <u>tolerant</u> drug users, when impaired, usually exhibit clinical evidence. (i.e. in the vital signs and eye signs) <u>Clarification</u>: 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.

Aids	Lesson Plan	Instructor Notes
 XVII-9 (On the Nod)	2. Observable effects of Heroin and other Narcotic Analgesics.	
	a. Sedation - "On the Nod"	
	o the condition known as "on the nod" is a semiconscious state of deep relaxation.	Point out that "on the nod" occurs most often with new users or with users exceeding normal doses.
	o the user's eyelids become very droopy.	Remind students that the technical term for "droopy eyelids" is Ptosis.
	o their head will slump forward until the chin rests on the chest.	
	o in this condition, the user usually can be aroused easily and will be sufficiently alert to respond to questions.	
	b. Other effects.	NOTE: These effects may be dose-related, and most often occur with non-tolerant users.
	o slowed reflexes	
	o slow and raspy speech	
	o slow, deliberate movements	
	o inability to concentrate	
	o slowed breathing	Instructor, FYI: Technical terms are Hypopnea or Bradypnea.
	o skin cool to the touch	
	o possible vomiting	
	o itching of the face, arms or body	Solicit students' comments and questions concerning possible effects of Narcotic Analgesics.

Aids	Lesson Plan	Instructor Notes
 20 Minutes	**C. Onset and Duration of Effects**	
 XVII-10A (On-set & Duration of Effects of Heroin)	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.	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.
 XVII-10B (On-set: 5-30 Minutes)	2. The observable signs will usually become evident within 5-30 minutes after the user has injected.	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.
 XVII-10C (On-set: 4-6 hours)	3. The effects will usually be observable for up to 4-6 hours. 4. As the drug wears off, withdrawal signs and symptoms start to develop until the addicted user injects again.	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. As with nearly all drugs, the withdrawal signs and symptoms are essentially the opposite of the "high" or intoxicated state.

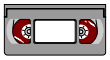
Aids	Lesson Plan	Instructor Notes
 XVII-11A (With-drawal)	a. As the effects of Heroin diminish, withdrawal <u>symptoms</u> begin.	
	o aches o chills o insomnia o nausea	
 XVII-11B	b. Withdrawal <u>signs</u> start to become observable 8-12 hours following injection.	
	o goose bumps (Pilo-erection) on the skin	"Piloerection" means "hair standing up".
	o sweating	Point out that "sweating" usually is the first withdrawal sign to appear.
	o running nose o tearing o vomiting o yawning	<u>Point out</u> that yawning, tearing, runny nose and vomiting usually appear only after marked withdrawal of many hours.
	5. Withdrawal signs and symptoms closely resemble those of Influenza or the common cold.	Point out that "withdrawal" signs of Narcotic Analgesics are essentially the opposite of their "under the influence" signs.
 XVII-11B	a. 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 <u>dilation</u> of the pupils.	
	b. Approximately 24-36 hours after injection, the addicted	

Aids	Lesson Plan	Instructor Notes
XVII-11C	user experiences insomnia, vomiting, diarrhea, weakness, depression and hot and cold flashes.	
XVII-11D	c. Withdrawal symptoms and signs generally reach their peak 2-3 days after injection:	
	o muscular and abdominal cramps	
XVII-11E	o elevated temperature o severe tremors and twitching	Point out that the involuntary tremors and twitching of the legs give rise to the expression "kicking the habit".
	d. The addicted user at this point is nauseated, gags, vomits and may lose 10-15 pounds within 24 hours.	
	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.	
	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.	Solicit students' comments and questions concerning onset and duration of the effects of Narcotic Analgesics.
5 Minutes	**D. Overdose Signs and Symptoms** 1. Narcotic Analgesics depress respiration.	Point out that this is an effect that Narcotic Analgesics have in common with CNS Depressants.

Aids	Lesson Plan	Instructor Notes
	a. In overdoses, the user's breathing will become slow and shallow.	
	b. Death can occur from severe respiratory depression.	
	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.	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.
	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.	E.g., "Tango and Cash" and "Goodfellas" were sold on the street as high grade Heroin. Rather, these contained the much more potent Fentanyl, resulting in many fatalities. Point out that a person suffering from Narcotic Analgesic overdose may appear to be in shock.
	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.	Solicit students' comments and questions concerning signs and symptoms of an overdose of Narcotic Analgesics.

Aids	Lesson Plan	Instructor Notes
●	**E. Expected Results of the Evaluation**	
60 Minutes		
	1. Observable evidence of impairment.	
XVII-12A,B,&C (Evaluation Results)	o Neither Horizontal Gaze Nystagmus nor Vertical Gaze Nystagmus will be present.	<u>But</u> remind students that Nystagmus could be present if the user has taken Heroin <u>and</u> PCP, or alcohol or some other CNS Depressant, or an Inhalant.
	o Eyes will <u>not</u> exhibit a Lack of Convergence.	
	o Performance on Romberg will be impaired. Generally, the subject will appear drowsy, and will have a slow internal clock.	<u>Point out</u> 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 "rubber-legged", similar to that caused by CNS Depressants.
	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.	
	o Performance on Finger to Nose will also be impaired. Generally, the subject will appear drowsy, possibly "on the	

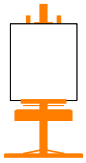
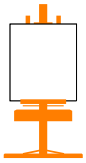
Aids	Lesson Plan	Instructor Notes
	nod," and exhibit slow and deliberate movements. o Blood pressure will be down. o Pulse will be down. o Body temperature will be down. o Pupil size generally will be constricted (below 3.0 mm in diameter) o Pupils reaction to light will be little or none visible. o If the effects of the Narcotic Analgesic are wearing off, hippus may be evident.	Remind students that these cardiovascular indicators may not be present if the suspect is a tolerant user who has taken a "normal" dose of the drug. Point out that constricted pupils are one of the most reliable indicators of a Narcotic Analgesic. The technical term for "constricted pupils" is "Miosis." NOTE: "Hippus" means pulsating pupils, i.e. alternately expanding and contracting in diameter.
  XVII-12D (General Indicators)	b. General indicators o Constricted pupils o Depressed reflexes o Drowsiness o Droopy eyelids (Ptosis) o Dry mouth o Euphoria o Facial itching o Flaccid muscle tone o Nausea o On the nod o Puncture marks o Slowed reflexes o Slow, low, raspy speech o Slowed breathing	Itching - Caused by the release of Histamines. If available, show slides of typical addicts' "track" marks.

Aids	Lesson Plan	Instructor Notes
XVII-13 (Symptoma-tology Chart)	2. Summary	
	3. Demonstrations	
	a. Video demonstrations.	Show video of subject(s) under the influence of Narcotic Analgesics. Relate behavior/ observations to the Symptomatology Chart.
	b. Drug Evaluation and Classification exemplars demonstrations.	Refer students to the exemplars found at the end of Section XVII of their manual. Solicit students' comments or questions concerning Expected Results of the Evaluation.
30 Minutes	**F. Injection Site Examination**	
	1. Examination of suspect's injection sites can give many clues to their drug habits.	The slang term for an injection site is a "mark".
	a. Many drugs can be injected.	The presence of injection sites doesn't ensure the subject is under the influence of drugs.
	b. Injection sites are a sign of drug use which may or may not be recent.	
	c. May be evidence of habitual use.	Examination of ingestion sites is just one of the twelve steps in the evaluation.

Aids	Lesson Plan	Instructor Notes
	2. The trauma to the skin, muscles and the blood is the basic concept of injection sites.	
	3. Drugs and medication are injected into the body in three ways.	
	a. Legal injections are usually Intramuscular.	Abbreviated as I/M. “Intramuscular” - defined as administering by entering a muscle.
	b. Subcutaneous, means just under the skin.	Commonly referred to as "skin popping".
	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.	Instructor: Insulin injections are “Subcutaneous” (S/C) and are not normally I/M or I/V injections. Insulin is never injected into a blood vessel, because the person would go into a coma. Abbreviated as I/V. “Intravenous” - defined as entering a vein.
	4. The primary instrument for injection is the hypodermic syringe.	
	a. It consists of a hollow needle, a tube and a plunger.	
	b. Needles vary in size, with the primary variance being the inside diameter of the needle or the gauge.	

Aids	Lesson Plan	Instructor Notes
	c. The greater the number the larger the gauge, the smaller the inside diameter of the needle.	A 26 gauge needle is used by a diabetic.
	d. Most illegal drug users prefer a larger gauge needle.	The hypodermic marks are smaller and are therefore, less noticeable making it more difficult for the DRE to see them.
	5. The user's equipment is commonly referred to as a "hype kit" or "works".	
	a. The kit contains a "cooker" 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.	
	b. A handle to hold the "cooker" over the flame.	
	c. Matches, lighters (primarily disposable, adjustable flame types) used to heat the substance in the "cooker".	
	d. 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.	
	e. "Cottons" are the cotton balls or cigarette filters used to "purify" the drug. The user places the "cottons" into their cooker and draws the drug up through the cottons.	The cottons are saved for later use since they contain some of the drug.

Aids	Lesson Plan	Instructor Notes
	6. As an expert, you may be asked in court to describe the difference between a legal and an illegal injection site.	There may be multiple injections, if the technician is unable to find a vein during the first try.
	a. The legal mark is usually intramuscular. Some exceptions would be in an emergency, blood donation or lab tests.	
	b. Usually there will be only one mark and it will be larger than the typical illegal injection.	
	c. Legal injections are made with new, sterile needles.	
	d. The illegal mark is usually over a vein.	Abbreviated as O/V.
	e. There will usually be multiple marks in various stages of healing. It takes approximately two weeks for a "mark" to totally heal.	For example, the Heroin addict will inject approximately four to six times each day (every four to six hours). Therefore, they will inject approximately 2,000 times in one year.
	f. Users frequently use the same needle over and over again. Thus making it become dull or barbed.	Frequently the needles are carried in pockets or socks and the rubbing against clothing causes them to be dull or barbed.
	g. Since the used needles make it more difficult to pierce the skin and vein, the injections sites may be jagged.	A barbed needle may tear the skin on the way in and on the way out.
	h. Use of old, dirty and shared needles cause the spread of infections and diseases such as AIDS.	ALWAYS WEAR RUBBER GLOVES PRIOR TO CONDUCTING THE EXAMINATION

Aids	Lesson Plan	Instructor Notes
	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).	
	c. There are no exact timetables for wounds to heal, but there are some general guidelines.	Chronic disease, poor nutrition and etc. retard the puncture healing process.

Aids	Lesson Plan	Instructor Notes
	d. Scabs develop within about 18 - 24 hours after a puncture.	A general rule: when the scab first forms, it is bright red. With age, the color gets darker and darker.
	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.	Users sometimes inject under a scab to hide multiple puncture wounds. This is referred to as "trap dooring".
	9. There is no exact science to classifying the age of puncture wound. Some <u>general guidelines</u> are:	
XVII-14A&B (Puncture Wounds)	a. <u>Fresh</u> 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.	
	b. <u>Early</u> 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.	
	c. <u>Late</u> puncture wound is 5 - 14 days old and will have a dark scab, dark bruise and the crater will flatten.	
	d. <u>Healing</u> puncture wound is over 14 days. The scab will be flaking and falling off with shriveled light colored skin underneath.	
	10. Other indicators of injection sites:	

Aids	Lesson Plan	Instructor Notes
	a. In an attempt to hide puncture wounds, users may inject into tattoos.	Tattoos that are designed to hide puncture wounds are frequently colored and found on the inner arms.
	b. Tattooing also refers to dark carbon deposits that result from using a flame to "sterilize" a needle. Carbon deposits on the needle are then injected into the skin, causing a tattoo effect.	
	c. A "track" 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 re-ferred to as "silver streaks".	AS A GENERAL RULE: one inch of tracks indicates that approximately 50 - 100 separate injections have been administered in this area.
20 Minutes	**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 <u>anywhere</u> 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.	

Aids	Lesson Plan	Instructor Notes
	c. The user may even use their neck because the marks can be hidden by hair or makeup.	
	d. They will basically use any part of their body where there is a vein.	
	3. Conduct a thorough, slow, methodical examination of the subject's arms beginning with the left.	
	a. Using a magnifying light or "ski light", examine the inner arm as it is extended with the palm facing you.	Point out that "ski light" is short for schematic light. An ideal light is a 10 power light.
	b. Beginning at the bicep slowly examine the arm. Document the findings of your examination.	
	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.	This forces the individual's veins to protrude.
	d. Next examine the outer arm as it is extended palm facing downward. Start the examination at the shoulder moving to the wrist.	
	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.	

Aids	Lesson Plans	Instructor Notes
	4. Conduct the entire procedure for the right side.	
	5. Ankles are the next most common injection area. a. Subject should be instructed to remove their shoes and socks to allow the DRE to examine them for puncture wounds. b. The most common area is on the back of the foot.	Suspects sometimes hide hypodermic needles in their socks, shoes and the heel compartments of their shoes.
	6. On a case by case basis, the DRE may need to examine other parts of the body for marks. a. ALWAYS follow your agencies rules, policies and procedures and laws regarding invasive type searches.	
 15 Minutes	**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.	Point out that DREs may want to photograph new or recent injection marks for evidential purposes.
	4. Conducting an injection mark examination is a skill. As with all skills, such as taking blood pressure, competency improves with practice.	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

XVII-1

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

Drug Evaluation & Classification Training XVII-2A

Narcotic Analgesics
(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 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

Drug Evaluation & Classification Training XVII-2B

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.

Drug Evaluation & Classification Training XVII-3

Types of Narcotic Analgesics

- Opiates
  - Natural alkaloids
  - Opium derivatives
- Synthetics

Drug Evaluation & Classification Training XVII-4

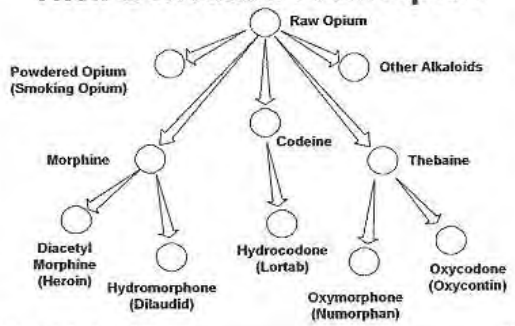
Three Characteristics Common to All Narcotic Analgesics

1. Relieve pain
2. Produce withdrawal signs and symptoms
3. Suppress the signs and symptoms of chronic morphine withdrawal

Drug Evaluation & Classification Training XVII-5

1

Commonly Abused Opiates and Their Derivation From Opium



Drug Evaluation & Classification Training XVII-6

Common Synthetic Opiates

- Demerol
- Methadone
- Fentanyl
- MPPP
- Darvon

(Methadone Diskette)

Drug Evaluation & Classification Training XVII-7

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

Drug Evaluation & Classification Training XVII-8

"On the Nod"

- Semiconscious
- Droopy eyelids (Ptosis)
- Head slumped forward, chin on chest
- Easily awakened
- Alert to questions

Drug Evaluation & Classification Training XVII-9

On-Set and Duration of Heroin's Effects

- Immediate
  - Pleasure or euphoria
  - Relief from pain
  - Relief from withdrawal

Drug Evaluation & Classification Training XVII-10A

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

Drug Evaluation & Classification Training XVII-10B

On-set and Duration of Heroin's Effects
(Continued)

- Physical effects usually are observable for up to 4-6 hours

Drug Evaluation & Classification Training XVII-10C

Signs and Symptoms of Withdrawal From Heroin

Symptoms normally begin: 4-6 hours following injection

- Aches
- Chills
- Insomnia
- Nausea

Drug Evaluation & Classification Training XVII-11A

Signs and Symptoms of Withdrawal From Heroin
(Continued)

Signs appear: 8-12 hours following injection

- Goose bumps
- Sweating
- Runny nose
- Tearing
- Vomiting
- Yawning

Drug Evaluation & Classification Training XVII-11B

Signs and Symptoms of Withdrawal From Heroin
(Continued)

Signs and symptoms intensify: 14 - 24 hours after injection

- Dilation of pupils
- Goosebumps
- Loss of appetite
- Similar to influenza or the common cold
- Slight tremors

Drug Evaluation & Classification Training XVII-11C

Signs and Symptoms of Withdrawal From Heroin
(Continued)

Situation worsens: 24 - 36 hours after injection

- Depression
- Diarrhea
- Hot and cold flashes
- Insomnia
- Vomiting
- Weakness

Drug Evaluation & Classification Training XVII-11D

Signs and Symptoms of Withdrawal From Heroin
(Continued)

Reaching the peak: 2 - 3 days after injection

- Muscular and abdominal cramps
- Severe tremors and twitching
- Elevated temperature
- Sharp loss of weight

Drug Evaluation & Classification Training XVII-11E

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

Drug Evaluation & Classification Training XVII-12A

Evaluation of Subjects Under the Influence of Narcotic Analgesics

Vital Signs:

- Pulse - down
- Blood pressure - down
- Body temperature - down
- Muscle tone - normal or flaccid

Drug Evaluation & Classification Training XVII-12B

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

Drug Evaluation & Classification Training XVII-12C

Evaluation of Subjects Under the Influence of Narcotic Analgesics

General Indicators:

- Constricted pupils (Miosis)
- Depressed reflexes
- Droopy eyelids (Ptosis)
- Drowsiness
- Dry mouth
- Euphoria
- Facial itching
- Flaccid muscle tone
- Nausea
- On the nod
- Puncture marks
- Slow, low, raspy speech
- Slowed breathing

Drug Evaluation & Classification Training XVII-12D

Narcotic Analgesic Symptomatology Chart

HGN	None
VGN	None
Lack of Convergence	None
Pupil Size	Constricted
Reaction to Light	Little or None Visible
Pulse Rate	Down
Blood Pressure	Down
Temperature	Down
Muscle Tone	Normal or Flaccid

Drug Evaluation & Classification Training XVII-13

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, reddened border and a crater appearance

Drug Evaluation & Classification Training XVII-14A

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

Drug Evaluation & Classification Training XVII-14B

QUESTIONS?

Drug Evaluation & Classification Training

DRUG INFLUENCE EVALUATION

Evaluator: Karl Nieberlein, Sparks P.D.	DRE No.: 1176	Rolling Log No.: 05-08-014	Session XVII - #1
Recorder/Witness: Sgt. Mac Venzon, Reno P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 05-44575

Arrestee's Name (Last, First MI)	DOB	Sex	Race	Arresting Officer (Name, ID No.)
Vaughn, Gerald T.	5-14-80	M	B	Ofc. Rich Gamwell, Sparks P.D.

Date Examined/Time/Location	Breath Results:	Chemical Test
08-24-05, 1805 hrs, Washoe Co.	☐ Refused Instrument # 15344 0.00 %	☐ Refused ☐ Urine ☒ Blood

Miranda Warning Given: ☒ Yes ☐ No	What have you eaten today?	When?	What have you been drinking? How much?	Time of last drink?
By: Ofc. Gamwell	Nothing	N/A	Dr. Pepper N/A	N/A

"Time now?"	When did you last sleep?	How long?	Are you sick or injured?	Are you diabetic or epileptic?
About 7pm	Last night	4 hrs.	☐ Yes ☒ No	☐ Yes ☒ No

Do you take insulin?	Do you have any physical defects?	Are you under the care of a doctor or dentist?
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

Are you taking any medication or drugs?	Attitude:	Coordination:
☒ Yes ☐ No "Methadone"	Cooperative, passive	Relaxed, slow, unstable
	Breath: Normal	Face: Normal

Speech:	Eyes:	Blindness:	Tracking:
Low, raspy	☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	☒ None ☐ Left Eye ☐ Right Eye	☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☐ Normal ☒ Droopy

Pulse and time

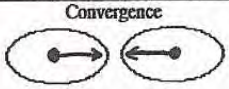
1. 56 / 1817
2. 58 / 1825
3. 58 / 1832

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

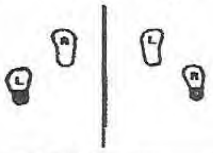
Convergence



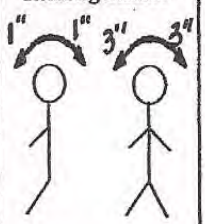
Right eye Left eye

One Leg Stand

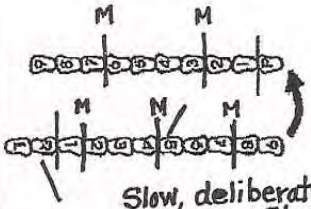
Counted Slowly



Romberg Balance



Walk and Turn test



Slow, deliberate steps

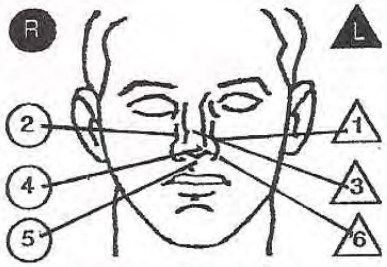
	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon:		
Stops walking	✓✓✓	✓✓
Misses heel to toe	✓✓✓	✓✓
Steps off line	✓	
Raises arms	✓✓	✓
Actual # steps	9	9

L	R	
☑	☑	Sways while balancing
☑	☑	Uses arms to balance
☐	☐	Hopping
☐	☐	Puts foot down

Type of footwear: Lace up boots

Internal clock	Describe Turn	Cannot do test (explain)	Nasal area:
44 Est. as 30 seconds	Slow, Deliberate	N/A	Clear

Draw lines to spots touched



Slow movements

Pupil Size	Room Light	Darkness	Direct
Left	2.0	2.0	2.0
Right	2.0	2.0	2.0

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

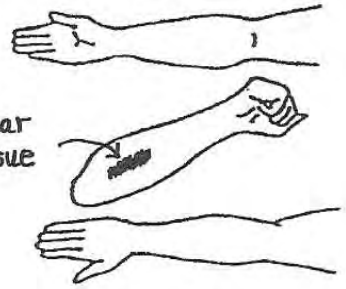
Reaction to Light: None

Blood pressure	Temperature
110/64	98.0°f

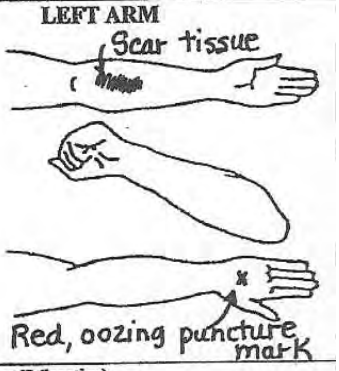
Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments:

RIGHT ARM



LEFT ARM



What medication or drug have you been using?	How much?	Time of use?	Where were the drugs used? (location)
"Just methadone, man"	"The normal"	3pm	"The clinic"

Date/Time of Arrest	Time DRE Notified	Evaluation Start Time	Time Completed
8-24-05, 1720 hrs.	1745 hrs.	1805	1900

DRE signature (include rank)	ID #	Reviewed by:
Karl Nieberlein	1176	[illegible]

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☒ Narcotic Analgesic ☐ Inhalant ☐ 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	DRE No.: 4600	Rolling Log No.: 04-017	Session XVII - #2
Recorder/Witness: Sgt. Jeff Niiya, PPB	Crash: ☐ None ☐ Fatal ☒ Injury ☐ Property		Case #: 04-25250

Arrestee's Name (Last, First MI): Bursten, David L.	DOB: 4/29/80	Sex: M	Race: W	Arresting Officer (Name, ID No.): Sgt. Jeff Niiya, PPB

Date Examined/Time/Location: 11/01/04 4:15pm, Central Precinct	Breath Results: ☐ Refused Instrument # 21250 0.00 %	Chemical Test: ☐ Refused ☒ Urine ☐ Blood

Miranda Warning Given: ☒ Yes ☐ No By: Sgt. Niiya	What have you eaten today? Nothing	When? N/A	What have you been drinking? How much? Nothing N/A	Time of last drink? N/A

Time now? Don't Know	When did you last sleep? Last night	How long? "a few hours"	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 under the care of a doctor or dentist? ☐ Yes ☒ No

Are you taking any medication or drugs? ☐ Yes ☒ No

Attitude: Cooperative	Coordination: Poor, sloppy, stumbling
Breath: Normal	Face: Normal
Speech: Slow & deliberate	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery
Blindness: ☒ None ☐ Left Eye ☐ Right Eye	Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)
Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☐ Normal ☒ Droopy

Pulse and time

1. 60 / 1630
2. 56 / 1642
3. 60 / 1655

HGN

	Left Eye	Right Eye
Lack of smooth pursuit	No	No
Maximum deviation	No	No
Angle of onset	None	None

Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye — Left eye

One Leg Stand 21 / 20

18 21 17

Counted slowly

Romberg Balance

3" 3" 3" 3"

circular sway

Walk and Turn test

5 Walked very slowly 5

5

Cannot keep balance	✓
Starts too soon:	

	1st Nine	2nd Nine
Stops walking	✓	✓
Misses heel to toe		
Steps off line		
Raises arms	✓✓	✓
Actual # steps	9	9

L	R	
✓✓	✓✓	Sways while balancing
✓	✓✓	Uses arms to balance
		Hopping
✓✓	✓	Puts foot down

Type of footwear: Loafers

Internal clock: 58 (Est. as 30 seconds)

Describe Turn: Lost Balance, Staggered to the left

Cannot do test (explain): N/A

Nasal area: Clear

Draw lines to spots touched

R L 1 2 3 4 5 6

Slow movements

Pupil Size	Room Light	Darkness	Direct
Left	1.5	1.5	1.5
Right	1.5	1.5	1.5

Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: None visible

Blood pressure: 100/60

Temperature: 97.0 °f

Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments: Arms & Neck very relaxed

Photo area **RIGHT ARM** Puncture Wounds — xxx 13 red dots

LEFT ARM 4 puncture wounds w/scabs — xxxx

Scar tissue

What medication or drug have you been using? How much? None Refused	Time of use? Refused	Where were the drugs used? (location) Refused	
Date/Time of Arrest: 11/01/04 4:00 PM	Time DRE Notified: 4:05 PM	Evaluation Start Time: 4:15 PM	Time Completed: 5:25 PM
DRE signature (include rank): Jim Pierce	ID #: Sr. Tpr. / OSP	Reviewed by: Sgt. A. Mevila	11/10/04

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☒ Narcotic Analgesic ☐ Inhalant ☐ Cannabis

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. 9139	Rolling Log No. 04-033	Session XVII - #3
Recorder/Witness: Eddie Buffalo	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-3125

Arrestee's Name (Last, First MI): Sheehan, Thomas	DOB: 5-16-66	Sex: M	Race: W	Arresting Officer (Name, ID No.): Sgt. Brandon Craft, N.C.H.P.

Date Examined/Time/Location: 3/17/04 2200 Raleigh PD	Breath Results: ☐ Refused Instrument # 4200 .00 %	Chemical Test ☐ Refused ☒ Urine ☐ Blood

Miranda Warning Given: ☒ Yes ☐ No By: Craft	What have you eaten today? When? "Nothing, Don't Know"	What have you been drinking? How much? I don't drink	Time of last drink? N/A

Time now? About 8pm	When did you last sleep? How long? This morning, 4 hrs.	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 under the care of a doctor or dentist? ☐ Yes ☒ No

Are you taking any medication or drugs? ☐ Yes ☒ No "I don't take drugs"	Attitude: Sarcastic	Coordination: Poor, stumbling, staggering
	Breath: Normal	Face: Pale
Speech: Low, raspy	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left Eye ☐ Right Eye / Tracking: ☒ Equal ☐ Unequal
Corrective lens: ☐ None (Removed) ☒ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Pupil size: ☒ Equal ☐ Unequal, (explain)	Able to follow stimulus: ☒ Yes ☐ No / Eyelids: ☐ Normal ☒ Droopy very

Pulse and time

1. 60 / 2210
2. 58 / 2221
3. 58 / 2230

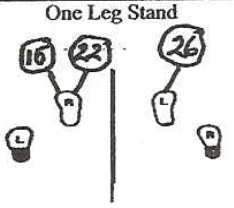
HGN

	Left Eye	Right Eye
Lack of smooth pursuit	yes	yes
Maximum deviation	No	No
Angle of onset	None	None

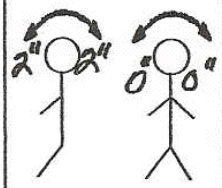
Vertical Nystagmus ☐ Yes ☒ No

Convergence: Right eye / Left eye

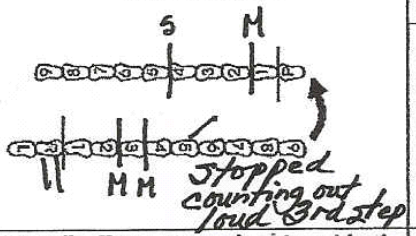
One Leg Stand



Romberg Balance



Walk and Turn test



Cannot keep balance: ✓✓

Starts too soon:

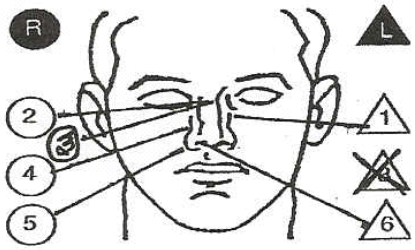
	1st Nine	2nd Nine
Stops walking		✓
Misses heel to toe	✓✓	✓
Steps off line	✓	
Raises arms	✓	✓✓✓
Actual # steps	9	9

L	R	
✓✓	✓	Sways while balancing
✓✓	✓	Uses arms to balance
		Hopping
✓✓	✓	Puts foot down

Type of footwear: Dress shoes

Internal clock: 55 Est. as 30 seconds	Describe Turn: As instructed, slow	Cannot do test (explain): N/A	Nasal area: Clear

Draw lines to spots touched



Pupil Size	Room Light	Darkness	Direct
Left	1.5	2.0	1.5
Right	1.5	2.0	1.5

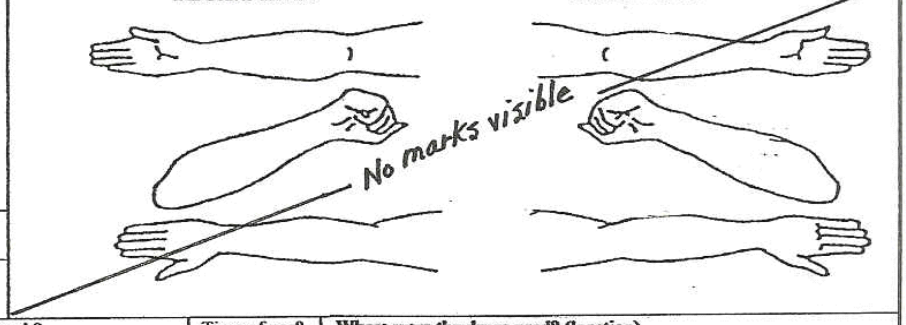
Hippus: ☐ Yes ☒ No

Rebound dilation: ☐ Yes ☒ No

Oral cavity: Clear

Reaction to Light: Little to none visible

RIGHT ARM / **LEFT ARM**



Blood pressure: 110 / 70	Temperature: 97.9 °f

Muscle tone: ☐ Near normal ☒ Flaccid ☐ Rigid

Comments:

What medication or drug have you been using? How much? "Nothing," "I don't do drugs"		Time of use? "I didn't"	Where were the drugs used? (location) No answer
Date/Time of Arrest: 03/17/04 2130	Time DRE Notified: 2140	Evaluation Start Time: 2200	Time Completed: 2300
DRE signature (Include rank): Sgt Tomczak	ID # 999	Reviewed by: Buffalo	

Opinion of evaluator: ☐ Rule Out ☐ Medical ☐ Alcohol ☐ CNS Depressant ☐ CNS Stimulant ☐ Hallucinogen ☐ Dissociative Anesthetic ☒ Narcotic Analgesic ☐ Inhalant ☐ 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.