Drug Evaluation and Classification Training

"The Drug Recognition Expert School"

January 2011 Edition

Instructor Manual

Acknowledgments

The International Association of Chiefs of Police (IACP) and the National Highway Traffic Safety Administration (NHTSA) would like to thank the following individuals for their contributions in updating and revising the DRE curricula.

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

ADMINISTRATOR'S GUIDE

JANUARY 2011 EDITION

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A. Purpose of this Document

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

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

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

(1) Whether the subject 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 subject'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 influence examination, and is able to describe the evidence that the examination will disclose to help determine if

the subject suffers a medical condition or if a subject 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 subject'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 <u>not</u>, generally speaking, disclose what <u>specific</u> drug or drugs the subject has used. That may seem to be a startling, and upsetting statement. Nevertheless, it is true. What the procedures <u>will</u> 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 <u>not</u> 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 subject 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 <u>not</u> 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;

- o 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:

- o have active drug enforcement and DWI enforcement programs;
- o be pro-active in training officers in Standardized Field Sobriety Testing; also, the training must be consistent with IACP/NHTSA guidelines, and the agency must maintain records of officers' Standardized Field Sobriety Testing enforcement activities;
- o have access to adequate chemical testing resources to support the Drug Evaluation and Classification Program, and ensure effective prosecution of drug-impaired subjects;
- o have adequate facilities and equipment to support the Drug Evaluation and Classification Examinations;
- o 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 conduct DRE training in a manner that complies fully with IACP/NHTSA curricula and guidelines.
  - Willingness to adopt IACP/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 IACP/NHTSA in training candidate DREs from other agencies.

c. Legal and Political Prerequisites

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

- specifically allow for the analysis of chemical samples obtained from persons suspected of impaired driving, to determine the presence and/or concentration of drugs other than alcohol;
- allow the arresting officer or law enforcement agency to specify the chemical test or tests (e.g., blood, breath or urine) to be given to suspected impaired drivers;
- specifically facilitate testing for drugs other than alcohol.

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

- make the fact of the driver's refusal to submit to the test or tests admissible in court;
- make it an offense to be under the influence of alcohol and/or illicit drugs, whether or not the person is operating a vehicle.

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

- demonstrate a willingness to introduce Standardized Field Sobriety Test evidence in alcohol/drug cases;
- express a willingness to participate in this training to become familiar with Drug Evaluation and Classification procedures and related information.

The state's or community's judges must:

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

Finally, it is desirable that the jurisdiction's political and community leaders express support for the Drug Evaluation and Classification Program.

2. What are the purposes of the course?

The ultimate goal of this course is to help prevent crashes, deaths and injuries by improving enforcement of drug-impaired driving violations. It is not exactly clear

how many drug-impaired drivers are on our nation's roads, or how many crashes they cause. 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 Curriculum Vitae (CV).

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 DVD 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 DEC 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	(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	0800-0930 SESSION XXIV: Drug Combinations	0800-1000 FINAL EXAM
0830-0915 SESSION XIV: Hallucinogens	0820-0850 SESSION XVII: (cont.)	1005-1050 SESSION XXV: Practice Test Interp.	1000-1015 BREAK
0915-0930 BREAK	0850-0900 BREAK	1050-1100 BREAK	1015-1200 SESSION XXIX: Classifying a Suspect-Role Play
0930-1030 SESSION XIV: (cont.)	0900-0945 SESSION XVIII: Practice Test Interp.	1100-1150 SESSION XXVI: Narrative Report	1200-1300 LUNCH
1030-1045 BREAK	0945-1020 SESSION XIX: Inhalants	1150-1210 QUIZ NUMBER FOUR	1300-1600 ADMINISTRATION OF THE TEST VALIDATION
1045-1130 SESSION XV: Test Interpretation	1020-1030 BREAK	1210-1310 LUNCH	1600-1630 SESSION XXX: Transition to Certification Training
1130-1200 SESSION XVI: Dissociative Anesthetics	1030-1130 SESSION XIX: (cont.)	1310-1440 SESSION XXVII: Practice Test Administration	1630-1700 Course Critique; Closing Remarks and Certificates
1200-1300 LUNCH	1130-1145 BREAK	1440-1450 BREAK	
1300-1410 SESSION XVI: (cont.)	1145-1300 SESSION XX: Vital Signs & Exams	1450-1535 SESSION XXVIII: Case Preparation and Testimony	
1410-1420 BREAK	1300-1400 LUNCH	1535-1545 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 FIVE	
1530-1630 SESSION XVII: (cont.)	1540-1640 SESSION XXII: Overview of Signs & 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	Curriculum Vitae		1hr
2:00P - 3:00P	Drug Combinations	D	1hr
3:00P - 3:30P	Quiz Number Three	D	.5hr
3:30P - 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, Note-taking 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	2hrs

XI and Pre-School manual session V)	
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, Note-taking & 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 DVD 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)
	(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 and the lesson plans themselves.

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, content/instructional notes format. The "content" of each page outlines what is to be taught. This content includes:

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

The "Instructional Notes" 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" include:

- the approximate amount of time to be devoted to each major content segment

- o indications of what visual aids are to be used and when they are to be used
- o questions to be posed to students to involve them actively in the presentation

- o indications of points requiring special emphasis

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

- o 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 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

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

- o wall charts
- o dry-erase board/flip-chart presentations
- o "visuals" (PowerPoint)
- o DVDs

The wall charts are permanently-displayed items or information, 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 text must be large enough so that they may be viewed from any seat in the classroom.

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" (PowerPoint slides) are simple displays of graphic and/or narrative material that emphasize key points and support the instructor's presentation. 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 slide used in Session VII.

The DVDs 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. These segments feature persons who are actually under the influence of various drugs.

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 persons 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 influence evaluation to each instructor. Each instructor uses an exemplar to inform the students as to what data they should record at each stage of the evaluation. For example, as part of the evaluation, the students will actually measure blood pressure. The instructor will observe the students' technique and offer constructive criticism. The instructor will inquire as to the pressure readings that the students obtain. But, the instructor will tell the students to record the blood pressure readings documented on his or her assigned exemplar. Subsequently, the students must review their completed exemplars and determine what category or categories of drugs the instructor was "simulating". These exemplars are found at the end of the lesson plans for Session XXIX.

D. General Administrative Requirements

1. Facility Requirements

Several types of facilities are needed to support this training. First, a standard classroom is required. This should provide comfortable seating and adequate desk/table space for each student, and should be equipped with a large screen, projectors, dry-erase boards and/or flip-charts and DVD 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 is recommended to serve as the instructors' "office", i.e.,

the place where they can prepare for their teaching assignments, store materials, etc.

2. Special Instructional Equipment and Personnel

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

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

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

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

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

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

3. Instructor Qualifications

The principal instructors for this course must be IACP-credentialed Drug Recognition Expert Instructors. That means that they (1) hold currently-valid certificates as DREs; (2) have completed the IACP/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 IACP/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 IACP/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 may be able to receive the services of additional (in-State and out-of-State) instructors, at IACP/NHTSA's expense. The IACP supplies manuals on-line for copying and other standard instructional materials at no charge. For States whose DEC Programs are new or developing, IACP/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, 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 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 IACP International Standards permit one additional attempt. The additional attempt must be based on an examination approved for that purpose by the 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 IACP International Standards for certification, each student must participate in conducting at least 12 drug evaluations, 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 evaluations. 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 IACP/NHTSA 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

Analysis Procedures

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 collected by the DEC Program State Coordinator or his/her designee. 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 IACP/NHTSA.

I. Requests for Information, Assistance or Materials

Departments interested in this program should contact their state's Office of Highway Safety or the individual State DEC Program Coordinator. Formal requests for this training should come from the State Highway Safety Office, and should be directed to the cognizant NHTSA Regional Office and the IACP.

1 Hour and 50 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 arrangements of the student manual.

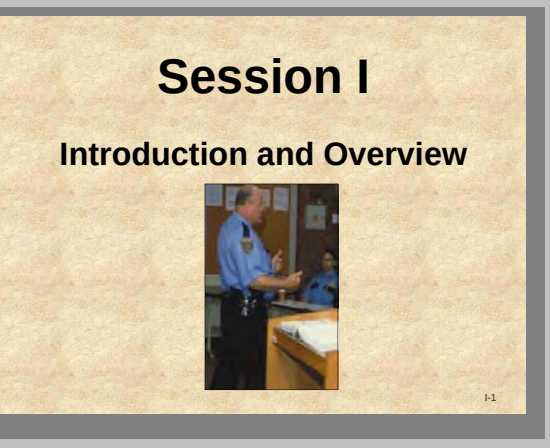
During this session the student will demonstrate his or her current knowledge of basic concepts and terminology relevant to the Drug Evaluation and Classification Process.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Welcoming Remarks and Goal	▪ Instructor Led Presentations
B. Participant Introductions	▪ Participant Led Presentations
C. Goals and Objectives	▪ Knowledge Examination
D. Overview of Content and Schedule	▪ Reading Assignments
E. Overview of Student Manual	
F. Administrative Matters	
G. Glossary of Terms	

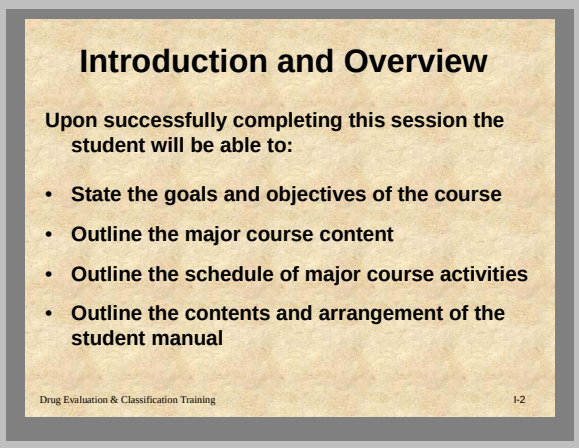
Drug Recognition Expert 7-Day School

I. INTRODUCTION AND OVERVIEW

Session 1-1: Introduction and Overview



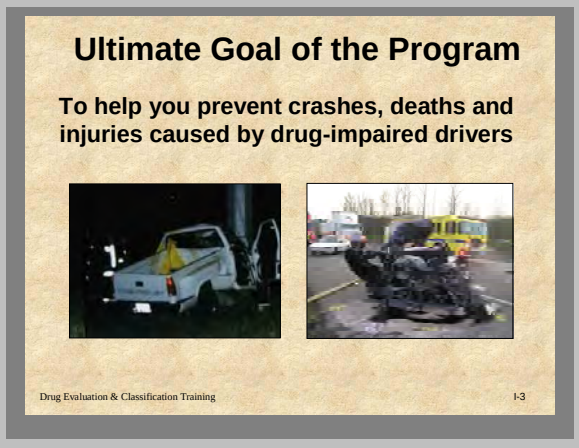
Session 1-2: Introduction and Overview



A. Welcoming Remarks and Goal

Welcome to the seven day DRE School.

Session 1-3: Ultimate Goal of the Program

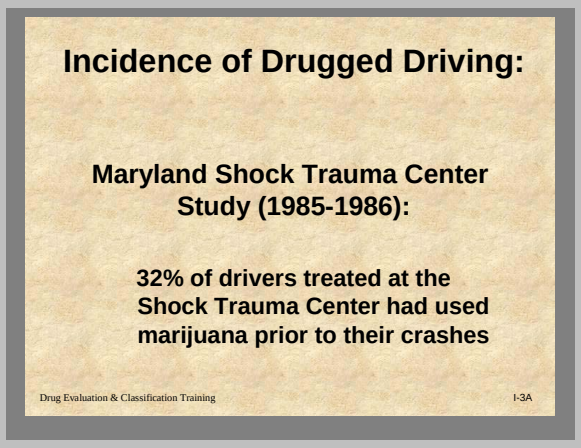


Ultimate Goal

The goal of this school is simple:

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

Session 1-3A: Incidence of Drugged Driving

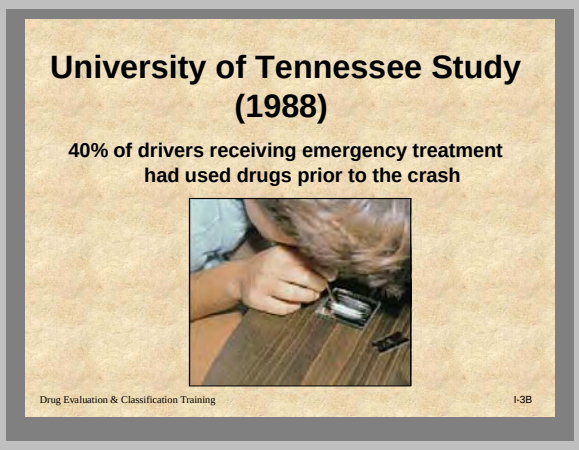


Incidence of Drugged Driving

Maryland Shock Trauma Center study (1985 – 1986).

- 32% of drivers treated at the Shock Trauma Center had used marijuana prior to their crashes.

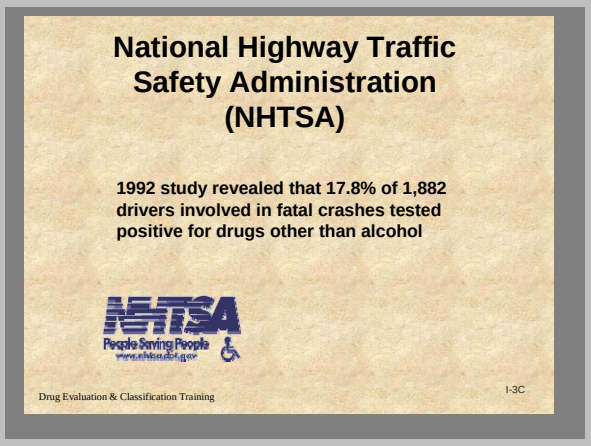
Session 1-3B: University of Tennessee Study (1988)



University of Tennessee study (1988).

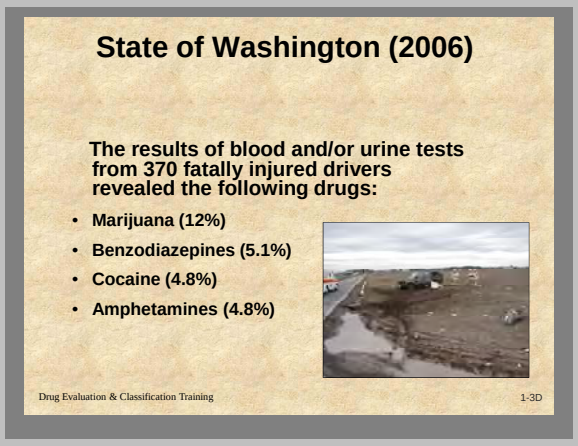
- 40% of drivers treated at Trauma Center for crash injuries had drugs other than alcohol in them.

Session 1-3C: National Highway Traffic Safety Administration (NHTSA)



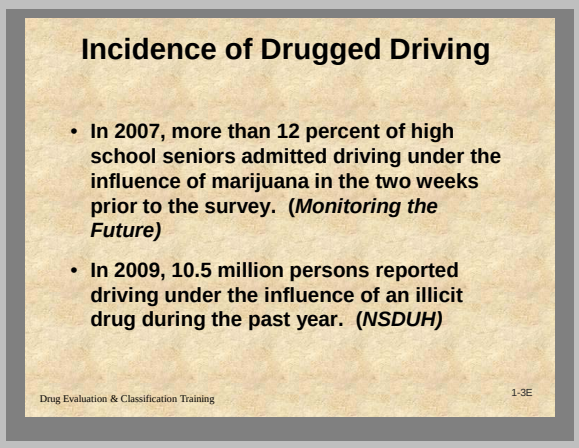
NHTSA (1992) – 17.8% of 1,882 operators involved in fatal crashes from thirteen sites tested positive for drugs other than alcohol.

Session 1-3D: State of Washington (2006)



The results of blood or urine tests from 370 fatally injured drivers in Washington revealed that marijuana was the most encountered drug (12%), followed by benzodiazepines (5%), cocaine (4.8%) and amphetamines (4.8%).

Session 1-3E: Incidence of Drugged Driving



In 2007, more than 12 percent of high school seniors admitted driving under the influence of marijuana in the two weeks prior to the survey. (Monitoring the Future)

In 2009, 10.5 million people reported driving under the influence of an illicit drug during the past year.

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

- The Drug Evaluation and Classification (DEC) Program is based on solid medical and scientific facts.
- The validity of the Drug Evaluation and Classification (DEC) Program has been tested in carefully controlled research in both the laboratory and the field.

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

- DREs form one of the tightest knit fraternities in law enforcement.
- 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.
- Each of you was selected to receive this training because you were recognized by your department as a skilled and dedicated law enforcement professional.

- 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

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.

Introduction of faculty

The lead off instructors should mention the names and agency affiliations of all other instructors, asking each to stand as their name is called.

Student introductions

Whenever possible, the 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.

C. Goals and Objectives

Classroom Training Goals

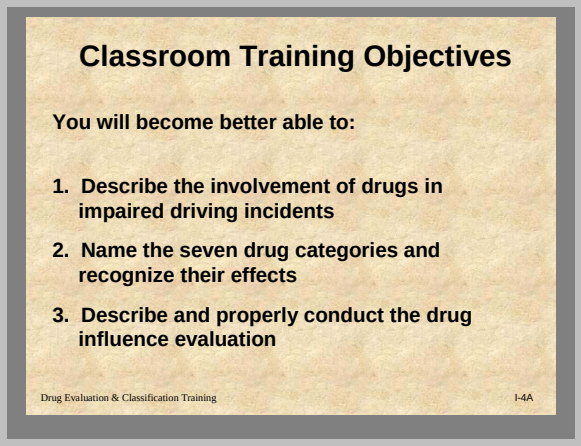
The goals of the classroom training, from the viewpoint of the law enforcement agencies participating in it, are three fold:

- To help police officers acquire the knowledge and skills needed to distinguish individuals under the influence of alcohol only from individuals who are under the influence of other drugs, or of combinations of alcohol and other drugs, or who are suffering from an injury or illness.

- To enable police officer to identify the broad category or categories of drugs inducing the observable signs of impairment manifested by an individual.

- To qualify police officers to progress to Certification Training.

Session 1-4A: Classroom Training Objectives

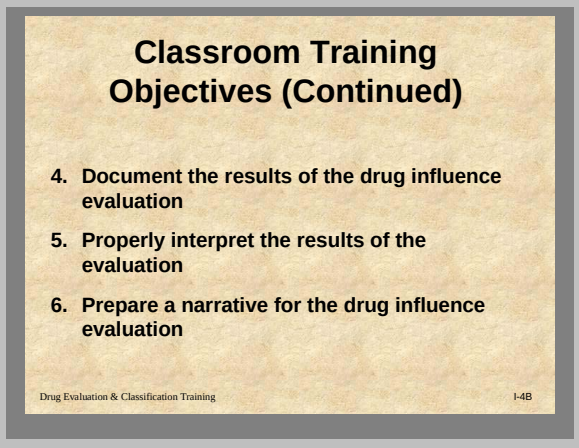


Classroom Training Objectives

If you successfully complete this School, you will be able to:

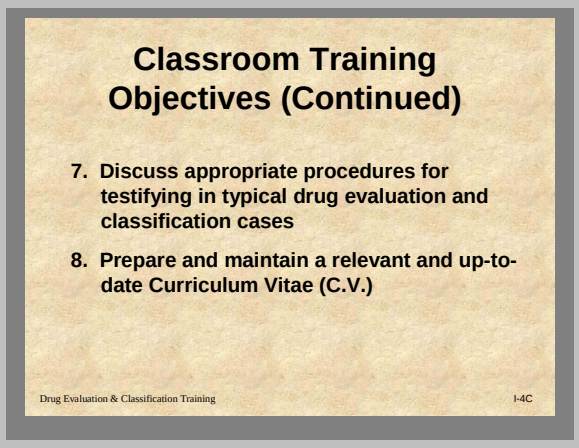
- Describe the involvement of drugs in impaired driving incidents.
- Name the seven categories of drugs and recognize their effects.
- Describe and properly conduct the drug influence evaluation.

Session 1-4B: Classroom Training Objectives (continued)



- Document the results of the drug influence evaluation.
- Properly interpret the results of the evaluation.
- Prepare a narrative Drug Influence Report.

Session 1-4C: Classroom Training Objectives (continued)



- Testify clearly and convincingly in drug evaluation cases.
- Maintain an up-to-date DRE Curriculum Vitae (C.V.).

Every DRE needs to be able to do these eight things.

Before you can be certified as a DRE, you will have to demonstrate that you can do each of these things.

D. Overview of Content and Schedule

Refer to wall charts in previewing the content topics. Give a brief overview of the contents covered under each major topic.

Major Content Topics

- Drugs in society and in vehicle operation.
- Development and effectiveness of the Drug Evaluation and Classification (DEC) Program.
- Overview of the DEC Procedures.
- Eye Examinations (a major component of the DEC procedures).
- Physiology and Drugs.
- Vital signs examinations (a major component of the DEC procedures).
- The seven categories of drugs.
- The Physician's Desk Reference (PDR) and other reference sources.
- Interviewing suspects (a major component of the DEC procedures).
- Curriculum Vitae (C.V.) preparation and maintenance.
- Case preparation and testimony.
- Classifying a suspect (interpreting and documenting the results of an examination).

Solicit students' questions concerning the content topics.

Hands-On Practice Sessions

Refer to the wall chart outlining practice sessions.

Emphasize that hands on practice is the principal learning activity of the course.

Eye Examinations Practice:

- Nystagmus, Lack of Convergence, Pupil Size, and Reaction to Light

Alcohol Workshop:

- Psychophysical testing practice
- Point out that volunteer drinkers from outside the class will be recruited for this session.

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.

Vital signs examinations

- Pulse, Blood Pressure

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.

Simulated drug impaired subject 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.

Course Schedule

- Refer students to the schedule shown in their manuals.
- Give a brief overview of the schedule of sessions.

Solicit students' questions concerning the schedule.

E. Overview of Student Manual

Make sure each student has a copy of the student manual. The student manual is the basic reference document for this course.

The manual contains a summary of presentations made by instructors throughout the classroom training.

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.

Students are expected to use the manual to review the material covered in class.

- Encourage students to read the appropriate student manual sessions prior to each day's classes.

The manual should also be used to preview the class sessions.

By taking good notes, and by studying the manual carefully, students should have no trouble in passing the course.

- Remind students that there will be numerous quizzes during the class.

At the conclusion of the classroom training, the student must pass the written test with a score of 80% or better in order to progress to the certification phase.

F. Administrative Matters

Logistics

Completion of registration forms, travel vouchers, etc.

Attendance

Mandatory attendance at all sessions of this school.

- 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.

Facilities

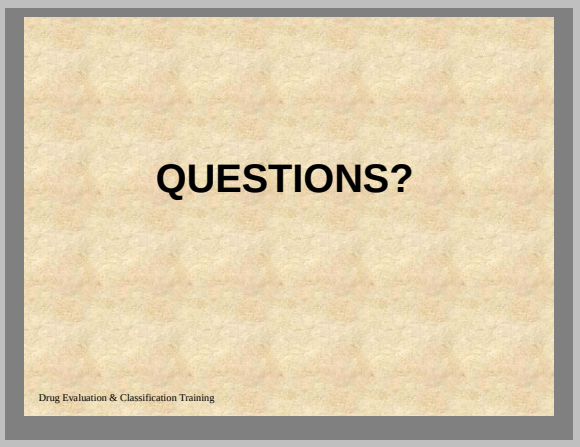
Locations of restrooms, lunchrooms, etc

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 students' permanent record. Allow 10 minutes for the 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.

Session 1-5: Questions



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 person who are under the influence of cocaine or other CNS Stimulants.

CANNABIS

This is the drug category that includes marijuana. Marijuana comes primarily from the leaves of certain species of Cannabis plants that grow readily all over the temperate zones of the earth. Hashish is another drug in this category, and is made from the dried and pressed resin of a marijuana plant. The active ingredient in both Marijuana and Hashish is a chemical called delta-9 tetrahydrocannabinol, usually abbreviated THC.

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 its 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 that, 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 higher THC content.

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 change in the pupil size of the eyes, as they dilate and constrict when observed in darkness independent of changes in light intensity, accommodation (focusing), or other forms of sensory stimulation. Normally only observed with specialized equipment.

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 and percodan), 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 semi-conscious 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

Physiology is the branch of biology dealing with the functions and activities of life or living matter and the physical and chemical phenomena involved.

PILOERECTION

Literally, "hair standing up", or goose bumps. This condition of the skin is often observed in people 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.

PSYCHOTOGENIC

Literally, "creating psychosis" or "giving birth to insanity". A drug is considered to be psychotogenic if people 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 people who are under the influence of the drug look and act insane while they are under the influence.

PTOSIS

Droopy eyelids.

PULSE

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

PULSE RATE

The number of expansions of an artery per minute.

PUPILLARY LIGHT REFLEX

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

PUPILLARY UNREST

The continuous, irregular change in the size of the pupils that may be observed under room or steady light conditions.

REBOUND DILATION

A period of pupillary constriction followed by a period of pupillary dilation where the pupil steadily increases in size and does not return to its original constricted size.

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. In its simplest terms it is a transposition of the senses. For example, seeing a particular sight may cause the user to perceive a sound.

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. The jerking should be distinct and sustained.

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.

50 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	▪ Instructor Led Presentations
B. Incidence and Characteristics of Drug Use in America	▪ Reading Assignments
C. Incidence of Drug Impaired Driving	

I. DRUGS IN SOCIETY AND IN VEHICLE OPERATION

Session 2-1: Drugs in Society and in Vehicle Operation

Session II

Drugs in Society and in Vehicle Operation

II-1

Session 2-1: Drugs in Society and in Vehicle Operation

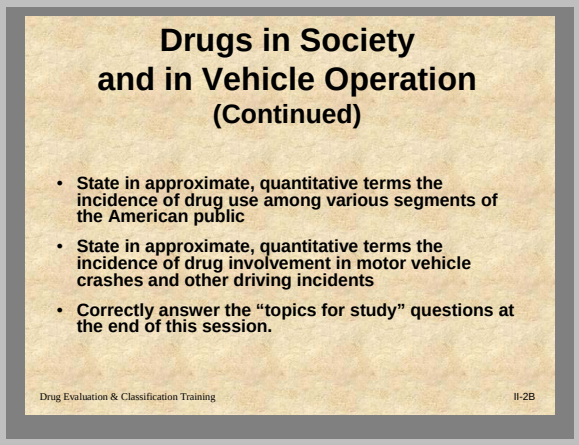
Drugs in Society and in Vehicle Operation

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

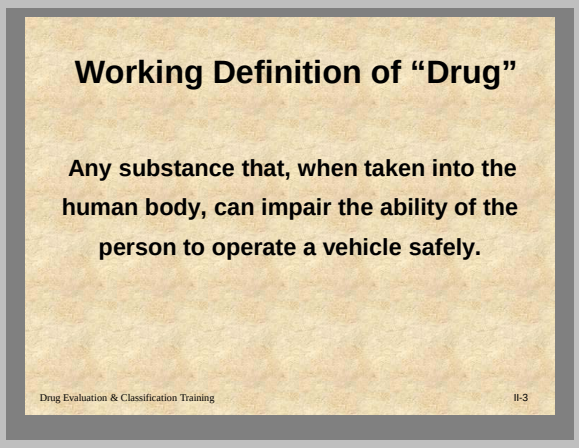
Session 2-2B: Drugs in Society and in Vehicle Operation (continued)



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

A. Definition and Categories of Drugs

Session 2-3: Working Definition of "Drug"



- Instructor, if this has been covered in the Pre-School, pose this question - "What is our working definition of the word "drug"; and proceed to number 2.

Pose this question to the students.

- Solicit several responses.

What do we mean by the word "drug"?

- Medicines? Are all drugs medicines? Are all medicines drugs?

- Narcotics? Are all drugs Narcotics?

- Habit forming substances? Are all drugs habit forming? Are all habit forming substances drugs.

A simple, law enforcement oriented definition.

This definition is derived from the California Vehicle Code.

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

- Point out that this definition excludes many substances that physicians, chemists, etc. might consider to be "drugs," e.g., antibiotics, Novocain, vitamins, etc. It also includes some substances that aren't normally thought of as "drugs," such as model airplane glue, insecticides, etc.

Within this simple, law enforcement oriented definition, there are seven categories of drugs.

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

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

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

- 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.

Session 2-4: Central Nervous System Depressants

Central Nervous System Depressants

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

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

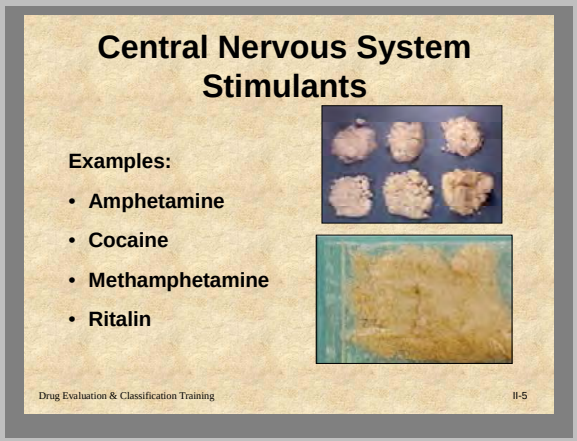
The category of CNS Depressants includes some of the most commonly abused drugs.

- Point out that tens of millions of prescriptions for such drugs are written in this country each year.
- Alcohol remains the most familiar drug. In 2008, 51.6% of the population aged 12 and older were current drinkers of alcohol.
    - Source: National Survey on Drug Use and Health (NSDUH) 2008.

Depressants slow down the operation of the Central Nervous System (i.e., the brain, brain stem and spinal cord).

- cause the user to react more slowly.
- cause the user to process information more slowly.
- relieve anxiety and tension.
- induce sedation, drowsiness and sleep.
- in high doses, CNS Depressants will produce general anesthesia.
    - i.e., depress the brain's ability to sense pain.
- in very high doses, induce coma and death.

Session 2-5: Central Nervous System Stimulants



Central Nervous System Stimulants

CNS Stimulants constitute another widely abused category of drugs.

- There appears to be approximately 1.9 million Cocaine users in the U.S.
  - Source: NSDUH Survey, 2008.
- Cocaine is one of the most frequently reported drugs in overdose cases treated at hospital emergency rooms.
  - Estimates of drug use vary widely, especially for illicit drugs such as Cocaine, Methamphetamines, etc.
- In 2008, 52 million Americans aged 12 or older admitted using psychotherapeutic drugs non-medically at least once in their lifetime.
  - Source: NSDUH Survey, 2008.
- In 2004, 1.4 million persons aged 12 or older reported they had used methamphetamines at least once in their lifetime.
  - Source: 2004 National Survey on Drug Use and Health.

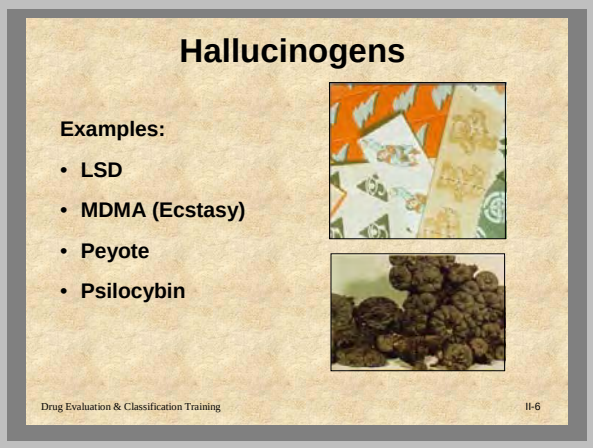
CNS Stimulants speed up the operation of the central nervous system, and of the various bodily functions controlled by the Central Nervous System.

- cause the user to become hyperactive, extremely talkative.
- speech may become rapid and repetitive.

- heart rate increases.
- blood pressure increases.
- body temperature rises, user may become excessively sweaty.
- induce emotional excitement, restlessness, irritability.
- 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.

Session 2-6: Hallucinogens



Hallucinogens

Hallucinogens are also widely abused.

- Point out that LSD and Peyote are only two examples of Hallucinogens. There are many other Hallucinogens.

In recent years, significant increases in the abuse of both LSD and "Ecstasy" (MDMA) have been reported.

Hallucinogens create perceptions that differ from reality.

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.

Hallucinogens cause the nervous system to send strange or false signals to the brain.

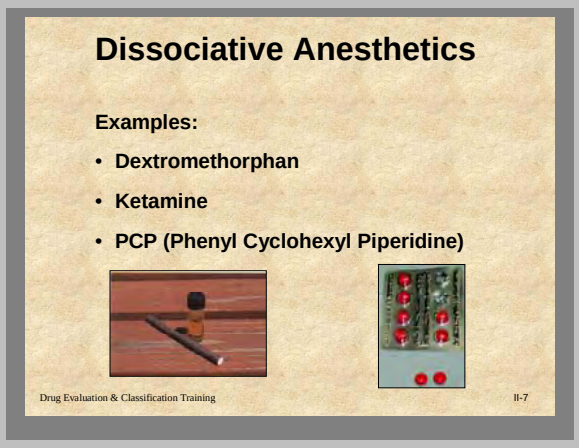
Clarification: Hallucinogens confuse the Central Nervous System (as well as speeding it up, like CNS Stimulants).

- Produce sights, sounds, odors, feelings and tastes that aren't real.
- Induce a temporary condition very much like psychosis or insanity.
- 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.

Session 2-7: Dissociative Anesthetics



Dissociative Anesthetics

- Point out that this category was changed from PCP to Dissociative Anesthetics in 2005.

PCP, its analogs and Dextromethorphan are examples of Dissociative Anesthetics. PCP is considered by the medical community to be a Hallucinogen. However, because of the symptomology it presents, it is in a separate category.

- Point out that people under the influence of Dissociative Anesthetics may exhibit a combination of the signs associated with Hallucinogens, CNS Stimulants, and Depressants.
- Phencyclidine is a short form of the chemical name Phenyl Cyclohexyl Piperdine, from which we get the abbreviation "PCP."

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

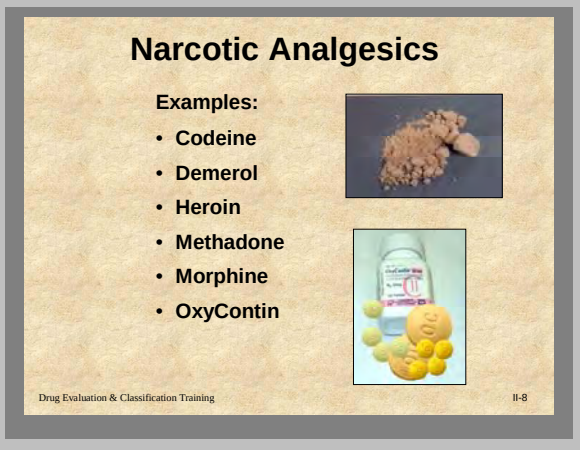
- Point out that PCP has many analogs, or "chemical cousins" that are very similar to PCP in chemical structure, and that produce essentially the same effects.

Analogs of PCP include Ketamine, Ketalar and Ketajet.

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.
- Dextromethorphan (DXM) is found in many over-the-counter anti-tussive cold medications such as Robitussin, Coricidin Cough and Cold, and Dimetapp. DXM is typically abused by school age children, teenagers or young adults to achieve impairment.
- DXM is normally used in liquid or pill form.
- In high doses, DXM impairment is similar to the effects of PCP or Hallucinogens.

Session 2-8: Narcotic Analgesics



Narcotic Analgesics

There are two subcategories of Narcotic Analgesics.

- Opiates are derivatives of Opium.

- Point out that Morphine and Codeine are examples of Opiates.

- 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 is an example of a Synthetic Narcotic.

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

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

Heroin is highly addictive.

- Many addicts support their habit by stealing property and converting it to cash.

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

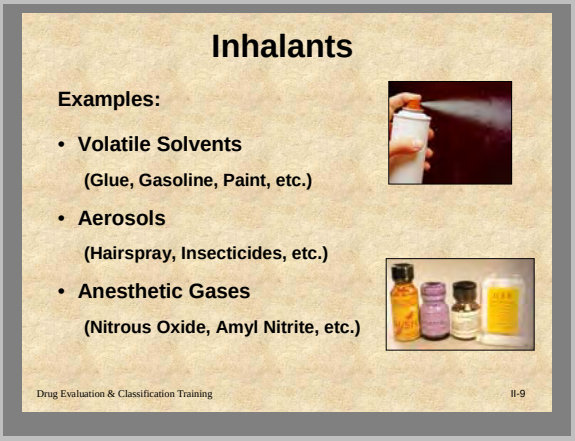
Persons under the influence of Narcotic Analgesics often pass into a semi-conscious type of sleep or near-sleep.

- Point out that this condition is often called being "on the nod."

- They often are sufficiently alert to respond to questions effectively.

Higher doses of Narcotic Analgesics can induce coma, respiratory failure and death.

Session 2-9: Inhalants



Inhalants

Inhalants are the fumes of certain substances. Inhalant abuse is on the rise.

These substances are found in many common products.

- gasoline
- oil-based paints
- glue
- aerosol cans
- varnish remover
- cleaning fluids
- etc.

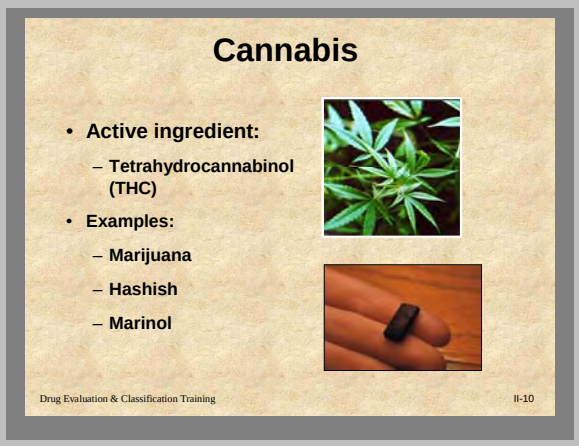
Different Inhalants produce different effects.

- Many produce effects similar to those of CNS Depressants.
- A few produce stimulant-like effects.
- Some produce hallucinogenic effects.

The Inhalant abuser's attitude and demeanor can vary from inattentive, stuporous and passive to irritable, violent and dangerous.

The abuser's speech will often be slow, thick and slurred.

Session 2-10: Cannabis



Cannabis

The category "Cannabis" includes the various forms and products of the Cannabis Sativa plant and other species of Cannabis plants.

Write "Cannabis Sativa" on the dry erase board or flip-chart.

The primary active ingredient in Cannabis products is the substance known as "Delta-9 Tetrahydrocannabinol," or "THC."

Write "△-9 THC" on the dry erase board or flip-chart.

Apart from alcohol, marijuana is the most commonly abused drug in this country.

In a household survey from 2008, marijuana was listed as the most common illicit drug used in the U.S. There were 15.2 million Americans over the age of 12 reporting use in the past month.

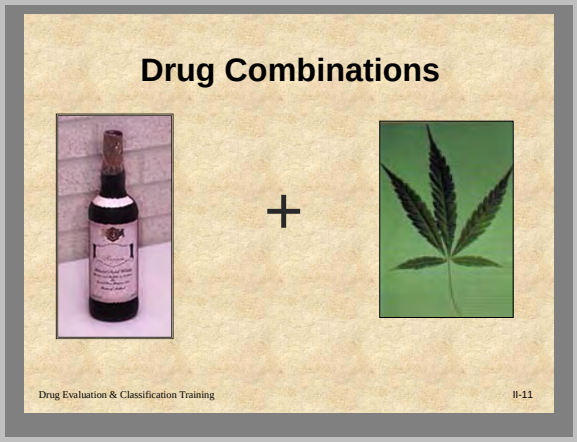
- Source: National Household Drug Use and Health Survey, 2008.

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.

Cannabis also produces a distortion of the user's perception of time, an increased heart rate (often over 100 beats per minute) and reddening of the eyes.

Session 2-11: Drug Combinations



Drug Combinations

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

The term for this is "polydrug use."

- "poly" is the Greek prefix for "many."

Write "polydrug use" on the dry erase board or flip-chart.

Some very common examples of polydrug use include:

- Alcohol with virtually any other drug
- Marijuana and PCP
    - Point out that a common way to ingest PCP is to sprinkle it on a Marijuana "joint" and smoke it.
- Cocaine and Heroin
    - Sometimes called a "speedball."
- Heroin and Amphetamine
    - Sometimes called a "poor man's speedball."
- Heroin and PCP
    - Sometimes called a "fireball."

- "Crack" Cocaine and PCP
    - This is sometimes called a "space base."
- "Crack" Cocaine and Marijuana
    - Sometimes called a "primo."
- "Crack" and Methamphetamine
    - Sometimes called "croak."

Sometimes, people take two different drugs (such as Heroin and Cocaine) that produce some opposite effects.

Example:

- Heroin tends to lower blood pressure.
- Cocaine tends to elevate blood pressure.

Write on dry erase board or flip-chart: "Polydrug use unique, interactive effects."

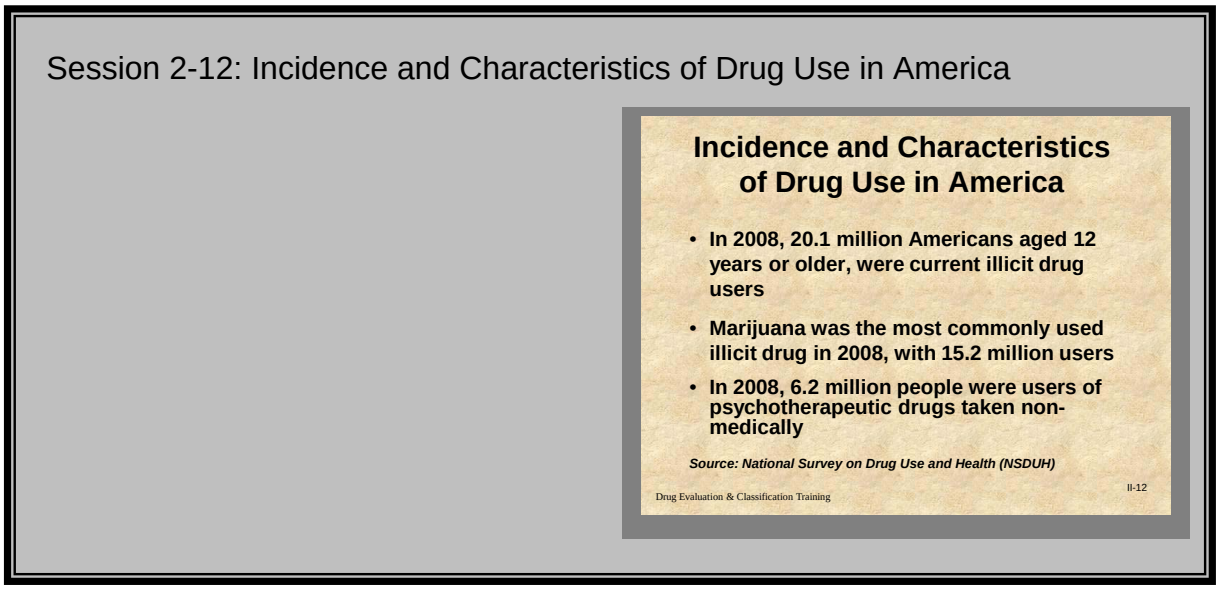
Different drug combinations may produce unique, interactive effects.

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.

However, it is important to bear in mind that, in a polydrug situation, some of the signs of a particular drug may not be evident even though the person is under the influence of that drug.

B. Incidence and Characteristics of Drug Use in America



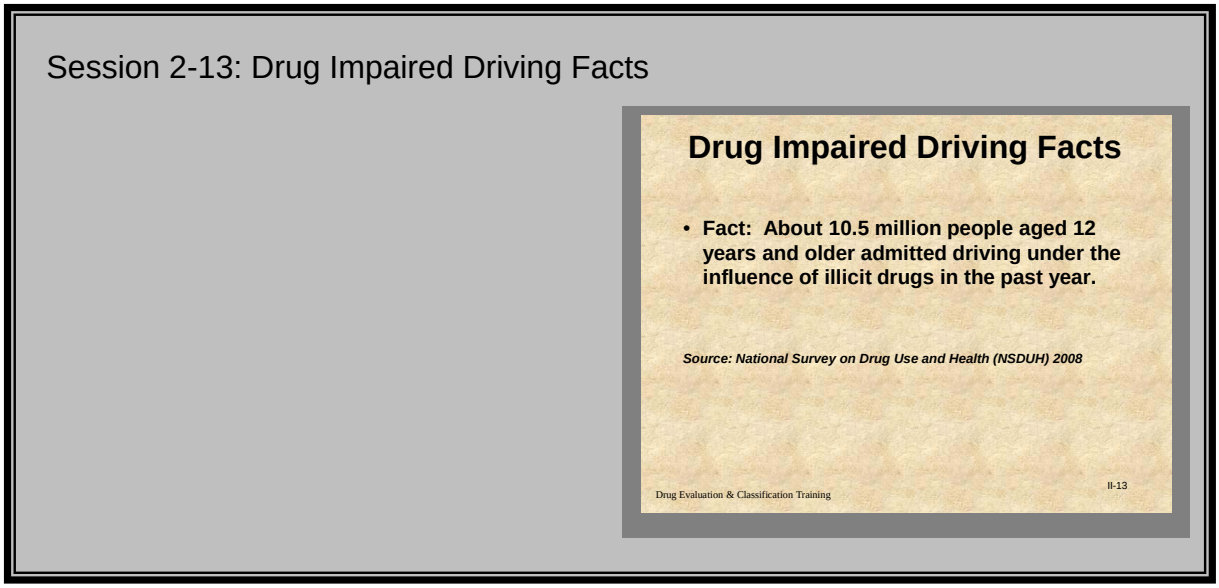
- In 2008, 20.1 million Americans (8.0% of the population) aged 12 years or older were current illicit drug users.
    - Source: 2008 National Survey on Drug Use and Health.
- Marijuana was the most commonly used illicit drug in 2008, with 15.2 million users reporting use.
    - Source: 2008 National Survey on Drug Use and Health.
- In 2008, 6.2 million people were users of prescription type psychotherapeutic drugs taken non-medically.
    - Source: 2008 National Survey on Drug Use and Health.
- In 2008, there were an estimated 1.9 million Cocaine users in the U.S.
    - Source: 2008 National Survey on Drug Use and Health.
- In 2004, there were an estimated 166,000 users of Heroin.
    - Source: 2004 National Survey on Drug Use and Health.
- Data from the 2008 NSDUH report shows that there were 2.2. million new users of pain relievers in 2008, with an average age of first use of 21.2 years.
    - Source: NSDUH, 2008.

C. Incidence of Drug Impaired Driving

Accurate data on the frequency with which people drive while under the influence of drugs is somewhat limited.

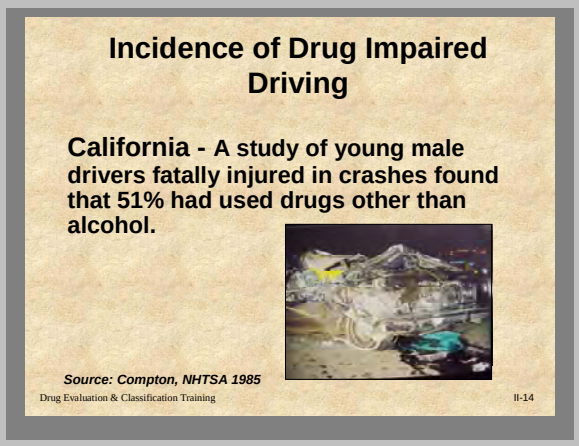
This is due to the various reasons that include:

- Many impaired drivers are never detected.
- Many drug users also consume alcohol, when they are stopped for impaired driving they may be arrested (and tabulated in statistics) as alcohol impaired drivers only.
- When they are involved in crashes, they may not be tested for drugs.



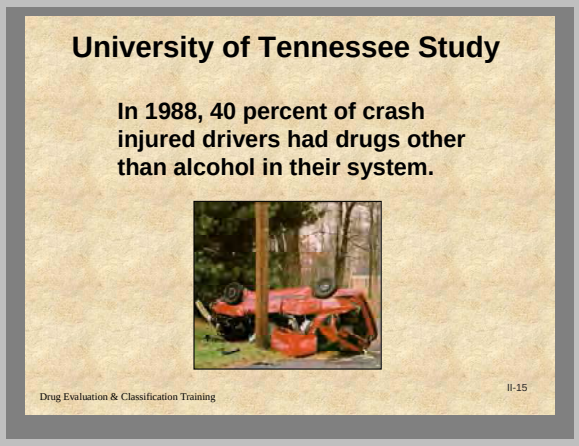
- Fact: About 10.5 million people aged 12 years and older admitted driving under the influence of illicit drugs in the past year.
    - Source: SAMHSA, Results from the 2009 National Survey on Drug Use and Health, Vol. 1.

Session 2-14: Incidence of Drug Impaired Driving



- 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%) tested positive for drugs other than alcohol. The most prevalent drug (other than alcohol) was Cannabis at 37%. Thirty percent (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.

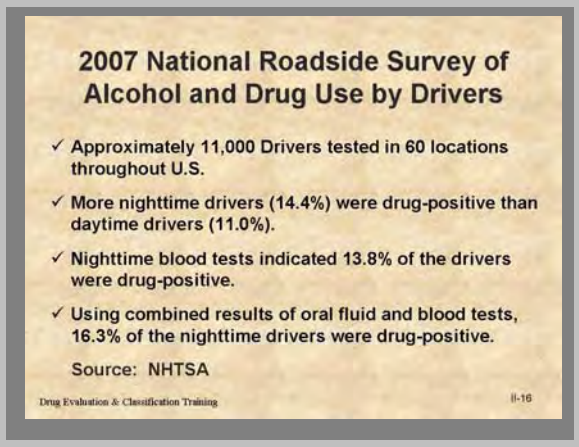
Session 2-15: University of Tennessee Study



- Fact: University of Tennessee (1988) found 40% of crash injured drivers had drugs other than alcohol in them.

- 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.
- Fact: A Monitoring the Future National Survey concluded that in 2008, 10 million people aged 12 or older reported driving under the influence of illicit drugs during the past year.

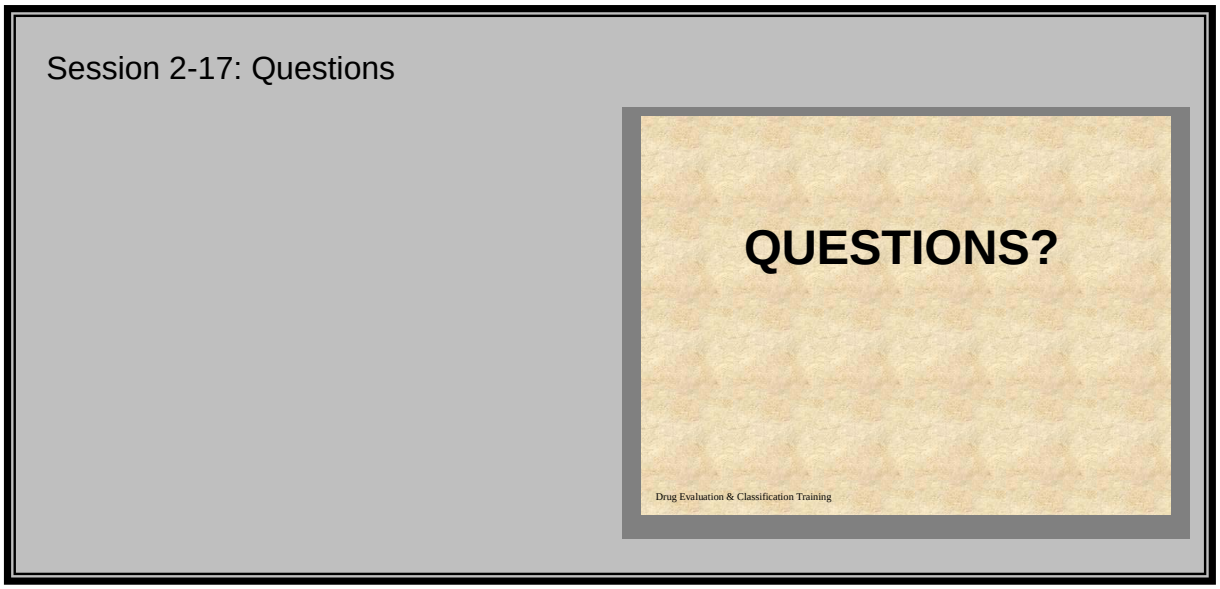
Session 2-16: 2007 National Roadside Survey of Alcohol and Drug Use by Drivers



- NHTSA undertook a comprehensive study of the prevalence of potentially-impairing drug use by drivers in 2007.
    - Report: The 2007 National Roadside Survey of Alcohol and Drug Use by Drivers.
- Approximately 11,000 drivers were asked to provide an oral fluid and blood sample. Samples were tested for legal prescription, illegal and OTC products.
- Fact: Based on the oral fluid results, more nighttime drivers (14.4% were drug positive than daytime drivers (11.0%).
- Fact: Based on the blood test results administered only at nighttime, 13.8% of the drivers were drug-positive.
- Fact: Using the combined results, 16.3% of the nighttime drivers were drug-positive.
    - Source: NHTSA Traffic Safety Facts, DOT HS 811 175, July 2009.

The facts are unmistakable: Drug use is common among many Americans. So is drug impaired driving.

- 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 that, 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 and Cannabis

3. What does "polydrug use" mean?

   Ingesting drugs from two or more drug categories.

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

   Cocaine and Heroin; Crack and PCP

5. In the 2007 National Roadside Survey of Alcohol and Drug Use by Drivers, what percentage of nighttime drivers, using both blood tests and oral fluids, tested positive for drugs?

   16.3%

50 Minutes

SESSION III

DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM

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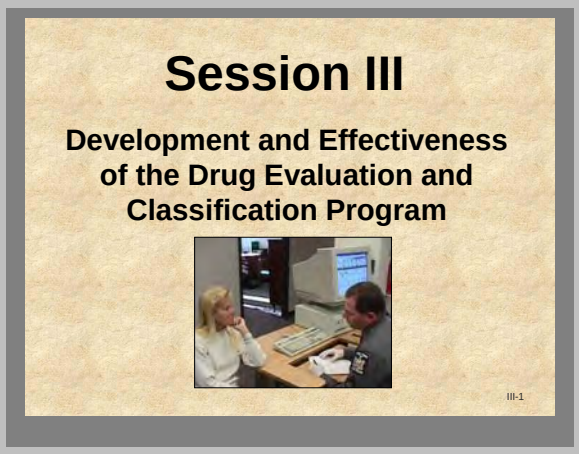
Upon successfully completing this session the student will be able to:

- 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.

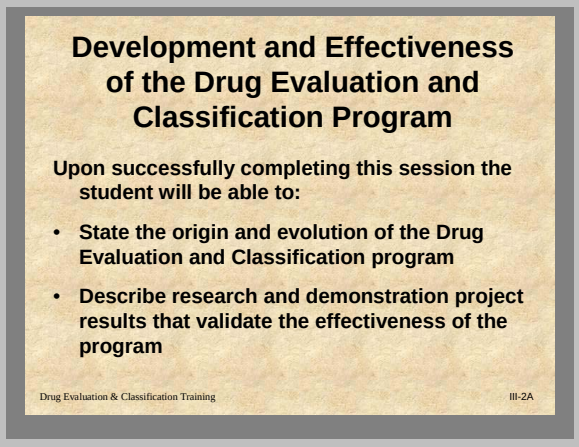
CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Origin and Evolution of Drug Evaluation & Classification Program	▪ Instructor Led Presentations
B. Evidence of Effectiveness	▪ Reading Assignments
C. Case Law Review	

I. DEVELOPMENT AND EFFECTIVENESS OF THE DRUG EVALUATION AND CLASSIFICATION PROGRAM

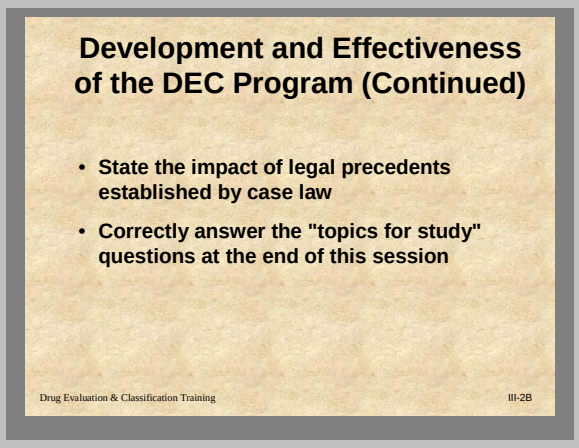
Session 3-1: Development and Effectiveness of the Drug Evaluation and Classification Program



Session 3-2A: Development and Effectiveness of the DEC Program (continued)



Session 3-2B: Development and Effectiveness of the DEC Program (continued)



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

A. Origin and Evolution of the Drug Evaluation and Classification (DEC) Program

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

Write: "LAPD" on dry erase board or flip-chart.

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 rather than alcohol.

Individuals principally responsible for initiation and development of the program:

- Dick Studdard (Traffic Officer)
- Sergeant Studdard retired from the LAPD in June, 1990.

Sgt. Studdard and his fellow officers often encountered many impaired drivers whose BACs were zero or very low.

They 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.

- For various reasons, physicians were often reluctant or unwilling to conduct these examinations and offer opinions.

Some reasons why doctors may be reluctant:

- They typically receive little training in the recognition of specific signs of drug impairment, particularly at street level doses.

- They may not see the subject until hours after the drugs were used, by which time the signs and symptoms often have changed.

As a result, some drivers whom Studdard and other officers were certain were impaired were not prosecuted or convicted for DWI.

Studdard concluded that it was essential to develop diagnostic procedures that officers could use when confronted with persons suspected of drugs.

Len Leeds (Narcotics Officer) and deceased in 1995:

- Was approached by Studdard and asked to collaborate in the development of a program.

- Initiated some independent research by consulting with physicians, enrolling in relevant classes, studying text books, technical articles, etc.

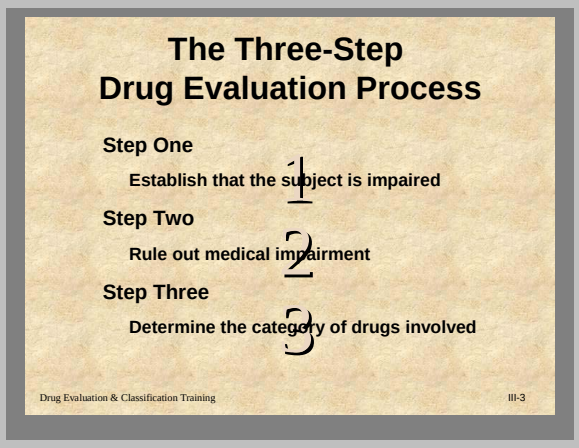
- Secured management level support within the department to continue research and program development.

As time went on, many other key persons both within and outside LAPD contributed to the development and refinement of the program.

In 1979, the program was officially recognized by LAPD.

- Note: The LAPD program was referred to as the Drug Recognition Expert (DRE) program.

Session 3-3: The Three-Step Drug Evaluation Process



The DEC program evolved into what is essentially a three-step process.

- 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.
    - Clarification: the first portion of the drug influence evaluation is devoted principally to Standardized Field Sobriety Testing of the subject, and to the administration of a breath test.
- 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.
- Second, use some simple diagnostic procedures to determine whether the impairment may stem from illness or injury, requiring prompt medical attention.
- Third, use diagnostic procedures to determine what category (or categories) of drugs are the likely cause of the impairment.

Keypoint

The entire evaluation process is standardized.

- Administered the same way to all subjects.
- Administered the same way by all officers.

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.

- 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 request for a chemical test of the subject.

- 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.

- 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 DRE.

- 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.

- 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.

- 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.

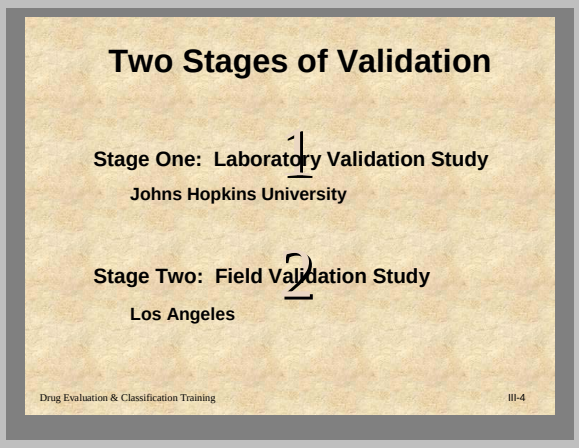
Solicit students' questions and comments concerning the origin, evolution and need for the Drug Evaluation and Classification program.

B. Evidence of Program Effectiveness

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

- The first step was to develop and validate a battery of Standardized Field Sobriety Tests for investigating alcohol impaired driving.
- 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.
- By the early 1980's, NHTSA completed its validation of the standardized tests for alcohol enforcement.
- At this time, NHTSA began to assist LAPD in validating the drug enforcement program.

Session 3-4: Two Stages of Validation



Two Stages of Validation

NHTSA assisted LAPD in a two-phase validation study.

- Laboratory validation, using volunteers who ingested selected drugs.
  - The Johns Hopkins validation was conducted in 1984.
- Field validation, using persons actually arrested in Los Angeles on suspicion of drug influence.
  - The LAPD Field Validation Study was conducted in 1985.

Laboratory Validation Study

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

- The drug examiners were senior DREs from LAPD. The LAPD participants:
    - Dick Studdard
    - Jerry Powell
    - Pat Russell
    - Doug Laird
- The laboratory experiments were planned and conducted by researchers from Johns Hopkins.
- Volunteers each took a "pill" and smoked a "cigarette."
- The "pill" contained either no drug (placebo) or one of the following drugs:
    - Secobarbital (CNS Depressant)
    - Valium (i.e., Diazepam – CNS Depressant)
    - d-amphetamine (CNS Stimulant).

Note: Secobarbital, diazepam and d-amphetamine were the pharmaceuticals used in the study. All were administered in identical gelatin capsules and were not brand name drugs. A common brand name for secobarbital is Seconal; a common brand name for diazepam is Valium and a common brand name for d-amphetamine is Dexedrine.

- The "cigarette" contained either Marijuana or no drug (placebo).
- 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.

- Two different dose levels of Marijuana, Diazepam and d-amphetamine were used.

Clarification: some of the Diazepam and d-amphetamine pills were "weak," some were "strong." Similarly, some of the Marijuana cigarettes were "weak," some "strong." All of the Secobarbital pills were "strong."

Instructor Notes

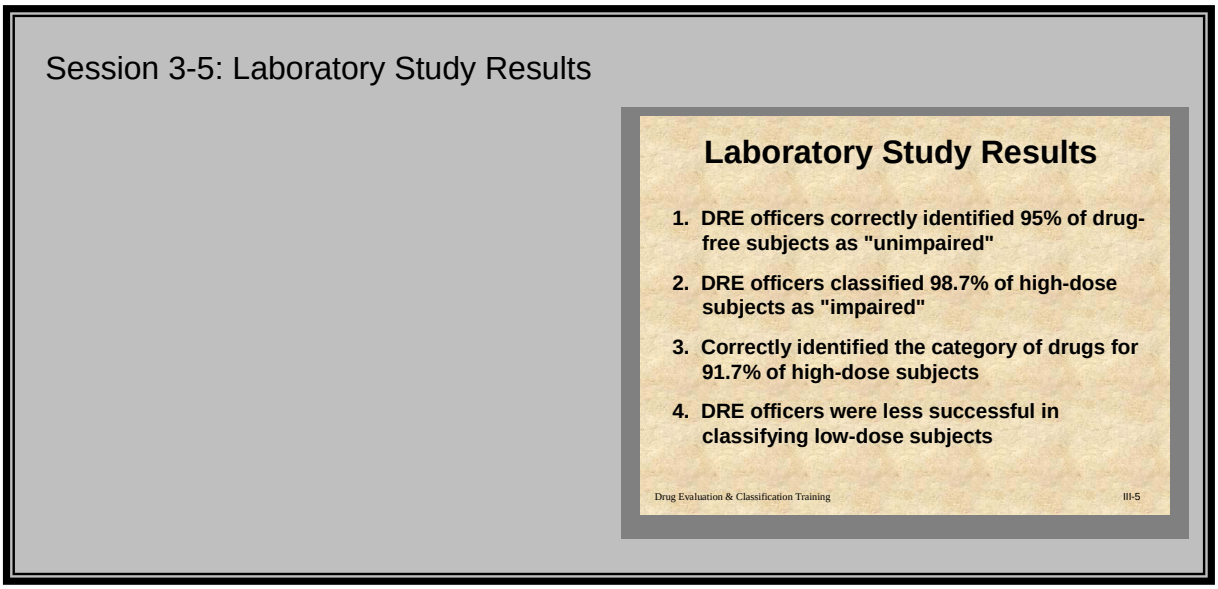
The following is given for your information.

Normal daily doss for therapeutic purposes:

- Secobarbital: approx. 100 mg.
- Diazepam: 4-40 mg.
- d-amphetamine: 15 mg.

Doses administered for this study:

- Secobarbital: 300 mg.
- Diazepam: weak – 15mg, strong – 30mg.
- d-amphetamine: weak – 15 mg, strong – 30 mg.
- Marijuana: weak – 12 puffs or 1.3% THC cigarettes, strong – 12 puffs of 2.8% THC cigarettes.



Results

- The DREs were excellent in identifying subjects who received only placebo doses: they classified 95% of the drug free subjects as "not impaired."

- Similarly, they were excellent in identifying the high dose subjects.

- They classified as "impaired" 98.7% of the subjects who received Secobarbital or strong doses of Marijuana, Diazepam or d-amphetamine.

- They correctly identified the category of drug for 91.7% of those strong dose subjects.

- The DREs were less successful in identifying the weak dose subjects.

- Only 17.5% of the subjects who received the weak dose of d-amphetamine were classified as "impaired."

- Only 32.5% of the subjects who smoked the "weak" Marijuana cigarettes were classified as "impaired."

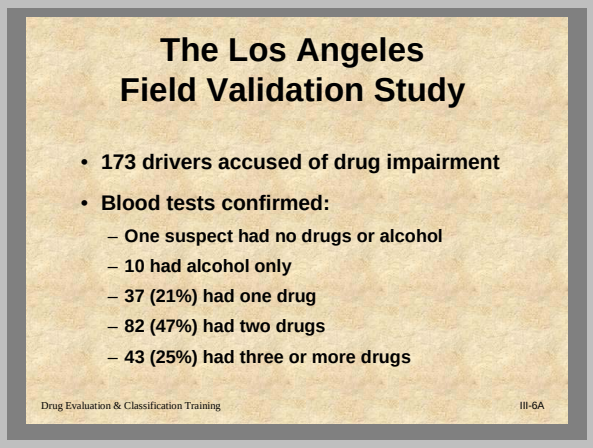
    - Emphasize that these low dose subjects probably would never have been stopped and arrested by police officers, if they had been driving.

- The results of the laboratory validation study were considered to be extremely positive.

- The DRE procedures correctly identified the category of drugs in more than 90% of the subjects who were impaired.

- The procedures only rarely indicated that unimpaired subjects were under the influence of drugs.

Session 3-6A: The Los Angeles Field Validation Study



Field Validation Study

The field validation study was based on 173 people actually arrested on suspicion of driving under the influence of drugs.

- Point out that during the study period, many other drugged driving arrests were made by LAPD officers.

- None of the cases involved a crash.

- In all of the cases, the arrested subjects agreed to submit to a blood test.

- 28 different DREs from LAPD and the L.A. area participated in the examinations of these 173 subjects.

- 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.

Results of the Field Study

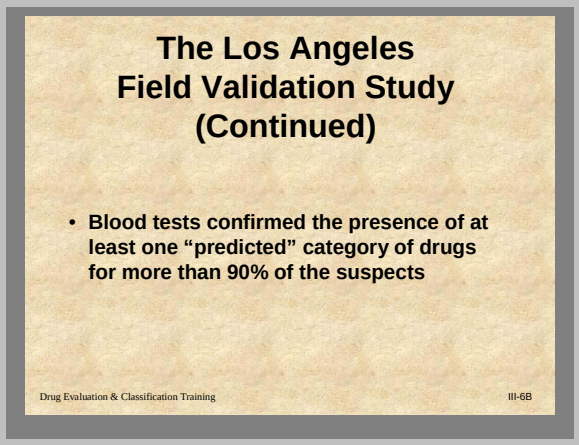
Based on the independent blood tests, only one of the 173 subjects was found to have no alcohol or other drugs.

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

Write on dry erase board "72% - two or more drugs other than alcohol."

    - Emphasize: Polydrug use is very common.
- PCP was the drug most often found among these 173 subjects: more than half of them (56%) had used PCP.

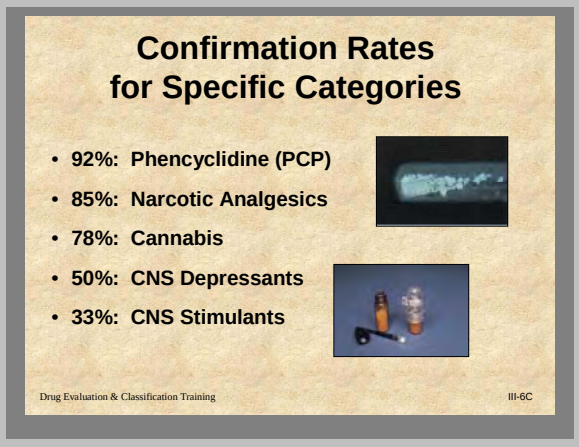
Session 3-6B: The Los Angeles Field Validation Study (continued)



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.

Session 3-6C: Confirmation Rates for Specific Categories



The confirmation rates for specific categories:

- PCP: blood tests confirmed DREs' predictions in 92% of the cases.
    - Point out: Study data for PCP was collected when PCP was considered a DRE drug category. In the other 8% it is possible that a PCP analog might have been used.

- Narcotic Analgesics: blood tests confirmed 85% of the DREs' predictions.
- Cannabis: blood tests confirmed 78% of DREs' predictions.
- 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.
- 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.

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.
- A Study conducted in 1990 by the Arizona Department of Public Safety Central Regional Crime Laboratory compiled records of the toxicological analysis corresponding to Arizona DREs were analyzed showing that a laboratory confirmation rate of 86.5% had been achieved.

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

Solicit students' questions about the laboratory and field studies.

C. Case Law Review

Session 3-7A: Case Law Review

Court Rulings

Favorable Court Rulings on DEC Procedures.

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.

The Frye standard is the traditional test for admissibility of "new" scientific evidence.

The Frye standard: " is the procedure or principle espoused accepted by the relevant scientific community.

Print "Frye Standard" on the dry erase board or flip-chart.

- Frye standard was set by the US Supreme Court in 1923.

In Daubert, courts serve as a gatekeeper for all scientific evidence.

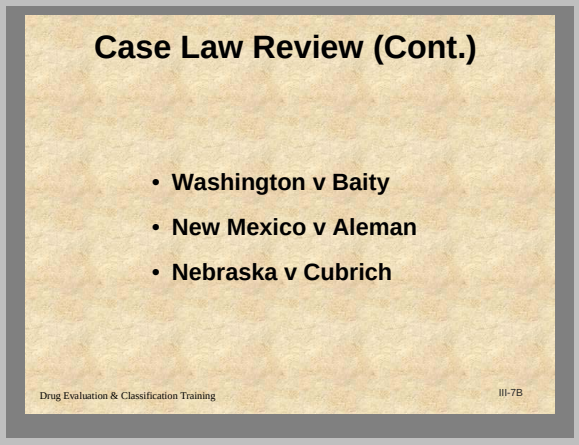
Print "Daubert" on the dry erase board or flip-chart.

- Daubert standard requires a showing of reliability before scientific evidence can be admitted.

Courts assess evidence by considering four factors:

- Opinions are testable.
- Methods/principles have been subject to peer review.
- Known error rate can be identified.
- Opinions rest on methodology that is generally accepted within the relevant scientific/technical community.

Session 3-7B: Case Law Review (continued)



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 Rodriguez, et al, NOS 90056865 and 90035883, (1990).

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).

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).

The Washington Supreme Court determined that the Frye Standard applies to the protocol because the process has "scientific elements."

- Washington v. Baity, 991P.2d, 1151, 140 Wn. 2d 1 (2000).

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).

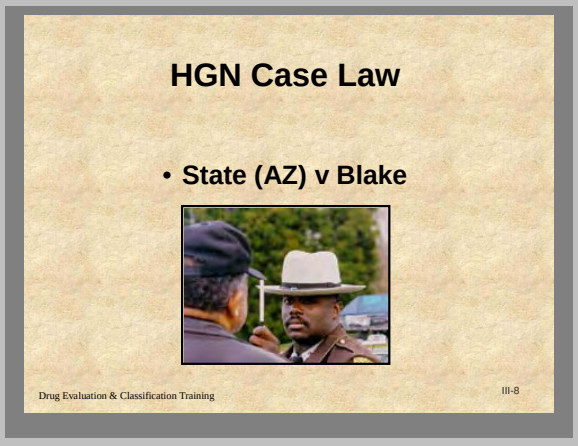
A Nebraska Court ruled that the DRE's opinion was correct and that the DRE protocol is admissible.

- State v. Cubrich, Case No. CR03-8203 Sarpy County Court (2004).
- In this case, the court used the Daubert Standard.

In many jurisdictions, it will not be necessary to have expert scientific testimony to secure admissibility of a DRE's examination of a subject.

- The DEC Program is gaining acceptance in many courts.
- In fact, testimony based on DRE investigation have been accepted by courts for years.
- Expert testimony regarding drug influence has long been accepted by numerous courts. The components of DRE evaluation are generally accepted in the scientific community. The DEC Program simply combined those components into a systematic and standardized procedure. Thus, many prosecutors believe that FRYE standards do not apply to DRE evaluations and testimony.

Session 3-8: HGN Case Law



HGN Case Law

One key element of DEC – namely, Horizontal Gaze Nystagmus – has been recognized as meeting the Frye standard by several State Supreme Courts.

- First to do so was Arizona, in the case known as State vs. Blake.

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.

Solicit students' questions and comments about case law.

Summary of HGN Case Law

The prevailing trend is for courts to admit HGN as evidence of impairment, with the proper scientific foundation.

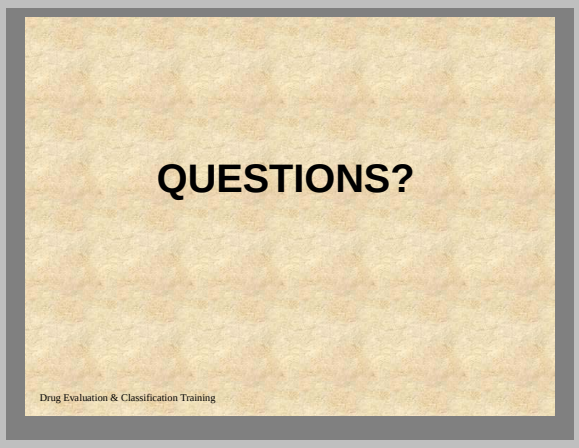
But courts consistently reject all attempts to introduce HGN as evidence of a quantitative BAC.

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

- 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."

Session 3-9: Questions



Frye" Decisions Regarding Admissibility

of Drug Recognition Expert Testimony

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

1990
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 no longer required to show than an HGN test satisfied the Frye standard before introducing the results of the test into evidence. Absent proof by the defense that the HGN test was unsound, the State only had to show that the officer who gave the test was trained in the procedure and that the test was properly administered. *The People of the State of Illinois v. Linda Basler,* 740 N.E.2d 1 (Ill. 2000), 2000 Ill. LEXIS 1698 (Ill. 2000). (Plurality Opinion) According to Fourth Circuit, a Frye hearing must be held for HGN to be admitted. *People v. Herring*, 762 N.E.2d 1186.

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

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

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

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

Indiana

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The proper foundation for admitting HGN evidence should consist of describing the officer's education and experience in administering the test and showing that the procedure was properly administered. *Cooper*, 751 N.E.2d at 903.
The question of whether a trained officer might express an opinion that defendant was intoxicated based upon the results of field sobriety tests was not before the court, and thus, the court expressed no opinion concerning the admissibility of such testimony.
Cooper, 751 N.E. 2d at 902, n. 1.

III. Purpose and Limits of HGN

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

Iowa

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

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

Kansas

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

Kentucky

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

Louisiana

I. Evidentiary Admissibility

HGN meets *Frye* standard of admissibility and with proper foundation 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 912.

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

"There 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 . . . Evidence from HGN tests is not conclusive proof of DUI. A positive HGN test result is to be

regarded as merely circumstantial evidence of DUI. Furthermore, HGN test shall not constitute evidence to establish a specific degree of blood alcohol content." *Sullivan*, 426 S.E.2d at 769.

South Dakota

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

The Court did not address this issue.

Tennessee

I. Evidentiary Admissibility

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

The Court did not address this issue.

Texas

I. Evidentiary Admissibility

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).

"The *Frye* standard applies to the admission of evidence based on HGN testing, unless . . . the State is able to prove that it rests on scientific principles and uses techniques which are

not 'novel' and are readily understandable by ordinary persons." The state failed to present any evidence to this fact and the court declined to take judicial notice of HGN.
State v. Cissne, 865 P.2d 564, 569 (Wash. Ct. App. 1994).

II. Police Officer Testimony Needed to Admit HGN Test Result

The Court did not address this issue.

III. Purpose and Limits of HGN

The Court did not address this issue.

West Virginia

I. Evidentiary Admissibility

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

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

II. Police Officer Testimony Needed to Admit HGN Test Result

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

III. Purpose and Limits of HGN

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

Muscatell v. Cline, 474 S.E.2d 518, 525 (W. Va. 1996).
Boley v. Cline, 456 S.E.2d 38, 41 (W. Va. 1995).

"If the reliability of the HGN test is demonstrated, an expert's testimony as to a driver's performance on the test is admissible only as evidence that the driver was under the influence," 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

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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).

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 recent 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 and 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

2 Hours and 30 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

A. Components of the Drug Evaluation and Classification Procedure

B. Interview of the Arresting Officer

C. The Preliminary Examination

D. Examinations of the Eyes

E. Divided Attention Psychological 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

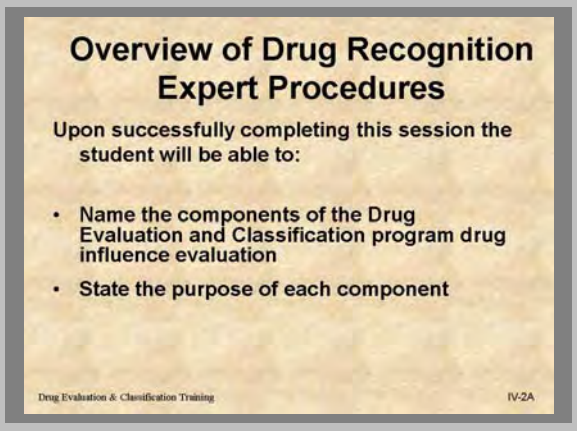
LEARNING ACTIVITIES

- Instructor Led Presentations
- Instructor Led Demonstrations
- Video Presentations
- Reading Assignments

I. OVERVIEW OF DRUG EVALUATION AND CLASSIFICATION PROCEDURES

Session 4-1: Session 4

Session 4-2A: Overview of Drug Recognition Expert Procedures

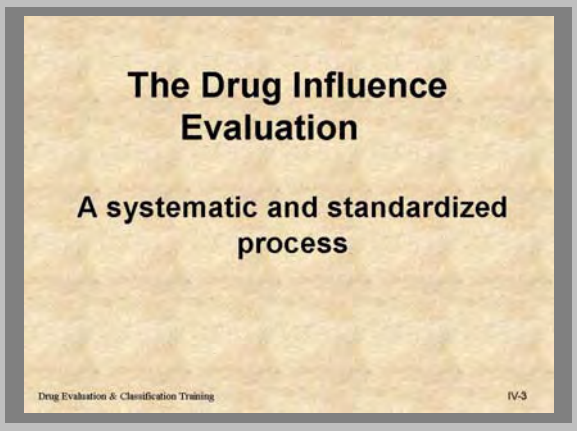


Session 4-2B: Overview of Drug Recognition Expert Procedures (cont.)

Briefly describe the objectives for this session.

A. Components of the Process

Session 4-3: The Drug Influence Evaluation



The Drug Influence Evaluation

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

- Whether the subject is impaired, and if so,
- Whether the impairment is caused by drugs or a medical condition.

- And if drugs, the category (or categories) of drugs that is/are the likely cause of the subject's impairment.

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

Write on the dry erase board or flip-chart: "A SYSTEMATIC PROCESS."

- Some of these observable signs and symptoms relate to the subject's appearance.

Write "appearance" on the dry erase board or flip-chart.

- Some of these observable signs and symptoms relate to the subject's behavior.

Write "behavior" on the dry erase board or flip-chart.

- Some relate to the subject's performance of carefully administered psychophysical tests.

Ask students: "What does 'psychophysical' mean?"

Point out that "psychophysical" relates to the subject's mind (psyche) and body (physique).

Write "psychophysical testing" on the dry erase board or flip-chart.

- 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.
- Some of the observable signs and symptoms relate to the subject's automatic responses to the specific drugs that are present.

All of these reliable indicators are examined and carefully considered before a judgment is made concerning what categories of drugs are affecting the subject.

The evaluation is standardized in that it is administered the same way, every time.

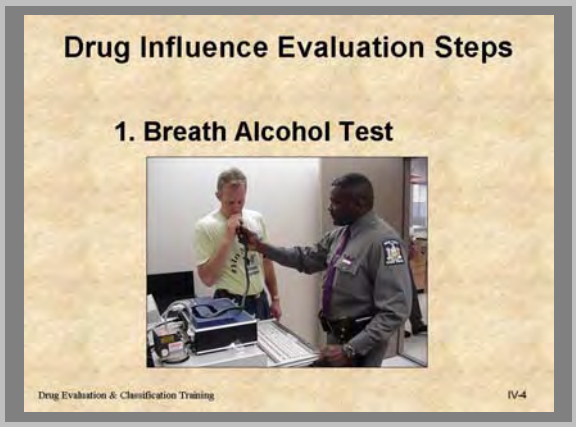
- Emphasize that DREs should always try to conduct the 12-step process in the same manner each time. However, there may be times when that is not possible, i.e., uncooperative subject, equipment failure, or refusals. Explain that if they are unable to complete all steps of the evaluations, that they must explain the reasons for this in their narrative report and if they are still able to form an opinion, what evidence and observations support their opinion.

Ask students: "Why is it so important to perform the drug influence evaluation in exactly the same way, every time?"

Probe to draw out all major reasons for standardization.

- Standardization helps to ensure that no mistakes are made.
- No examinations are left out.
- No extraneous or unreliable "indicators" are included.
- Standardization helps to promote professionalism among drug recognition experts.
    - Discuss examples of reasons when the DRE may be unable to complete each step of the evaluation, i.e., injuries, uncooperative subject, equipment failure.
- Standardization helps to secure acceptance in court.
    - In such cases, the DRE may still be able to form an opinion based upon the evidence obtained. State v. Cammack, 1997 WL 104913 (Minnesota Ct. Appeals, 1997) ruled that a DRE need not complete the entire 12-step evaluation for an opinion to be admissible so long as there is sufficient admissible evidence.

Session 4-4: Drug Influence Evaluation Steps



Drug Influence Evaluation Steps

The Drug Evaluation and Classification drug influence evaluation has twelve components.

- Refer students to the 12-step evaluation checklist on page IV-4 of their participant manual.

Breath Alcohol Test

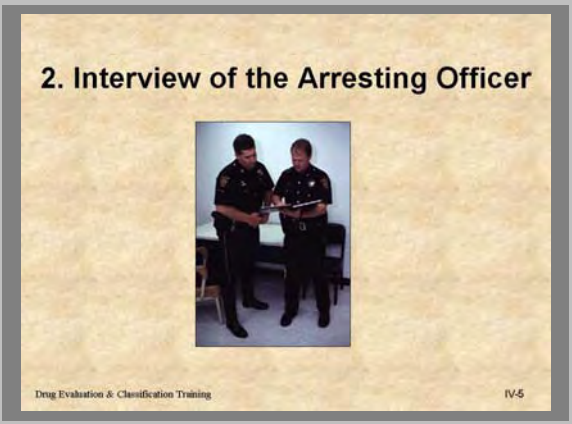
The Breath Alcohol Test is needed to determine Blood Alcohol Concentration (BAC).

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

- Obtaining an accurate measurement of BAC enables the DRE to assess 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 subjects who are under the influence of drugs other than alcohol also have alcohol in their system.

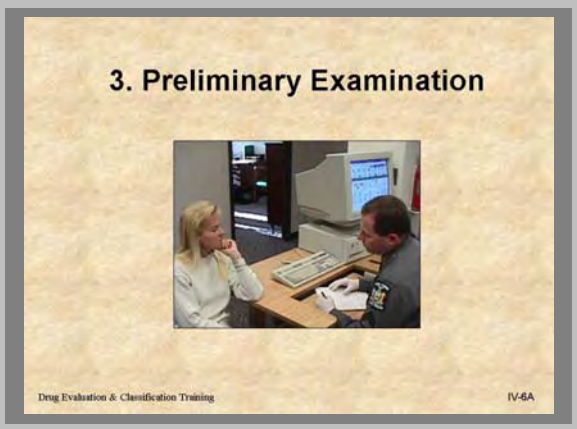
Session 4-5: Interview of the Arresting Officer



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 subject's behavior that could be very valuable for your own safety.

Session 4-6A: Preliminary Examination



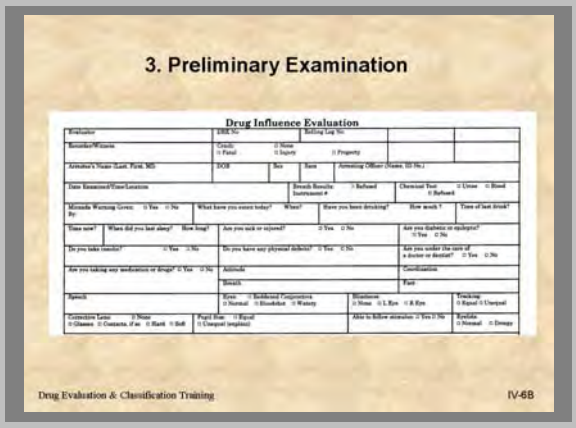
The Preliminary Examination

Remind students that protective gloves must be worn from this portion of the evaluation on.

The preliminary examination is your first opportunity to observe 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 influence evaluation, 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 subject'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.

Session 4-6B: Preliminary Examination

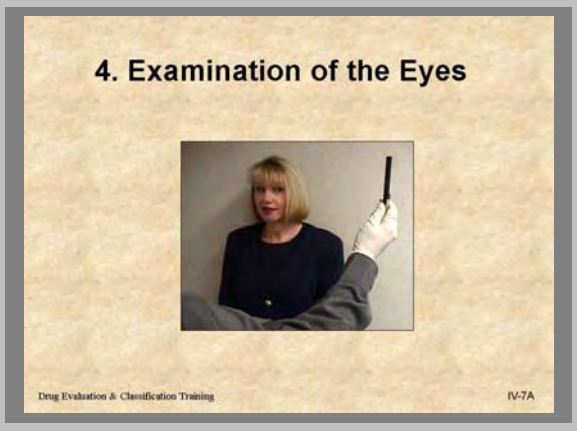


- The preliminary examination consists of a series of questions dealing with possible injuries or medical problems; observations of the subject's face, speech and breath; pupil size and tracking ability; initial checks of the subject's eyes; and, an initial examination of the subject's pulse.

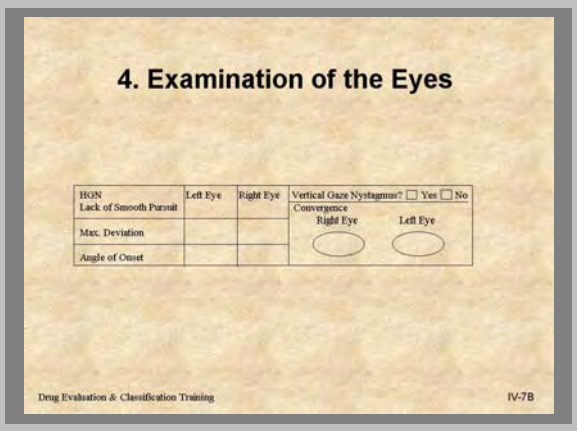
- While you are assessing the subject's tracking ability, you can also perform a preliminary assessment of whether Horizontal Gaze Nystagmus is present in the subject's eyes. In particular, if the nystagmus or "jerking" is observed, an initial estimation of the angle of onset can be made. The approximate 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 subject's Constitutional rights. However, the students must comply with their own department's policies as to whether they should advise the subjects of their Constitutional rights before asking these questions.

Session 4-7A: Examination of the Eyes



Session 4-7B: Examination of the Eyes



Examinations of the Eyes

Certain drugs produce very easily observable effects on the eyes.

Ask students: "What do we look for, in a subject's eyes, to determine if he or she may be under the influence of alcohol?" Probe, as necessary, to draw out the response "nystagmus."

- One of the most dramatic of these effects is nystagmus, which means an involuntary jerking of the eyes.
- Persons under the influence of alcohol usually will exhibit Horizontal Gaze Nystagmus, which is an involuntary jerking of the eyes occurring as the eyes gaze to the side.
- Alcohol is not the only drug that causes Nystagmus.
- Horizontal Gaze Nystagmus is not the only observable effect on the eyes that will be caused by various drugs.
- Point out that the examinations of the eyes will be covered in much greater depth later in this training.

Session 4-8A: Divided Attention Test

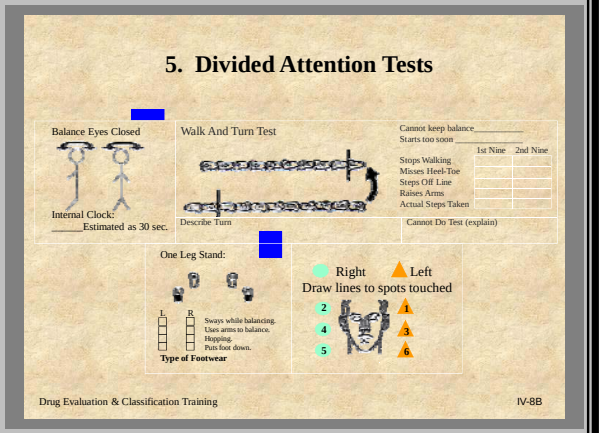
Divided Attention Psychophysical Tests

Ask students: "What does 'divided attention' mean?" Probe, as necessary, to draw out responses indicating the concept of "concentrating on more than one thing at a time."

All drugs that impair driving ability will also impair the subject's ability to perform certain carefully designed divided attention tests.

These tests are familiar to you in the context of examining alcohol impaired subjects.

Session 4-8B: Divided Attention Test

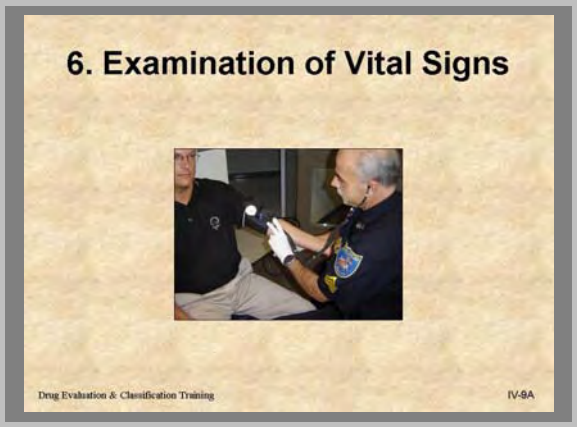


The same tests are very valuable for disclosing evidence of impairment due to drugs other than alcohol.

- Point out that students' will have opportunities to practice administering these tests subsequently in the course.

- The divided attention tests used in the DRE examination include the Romberg Balance, the Walk and Turn, One Leg Stand, and the Finger to Nose.

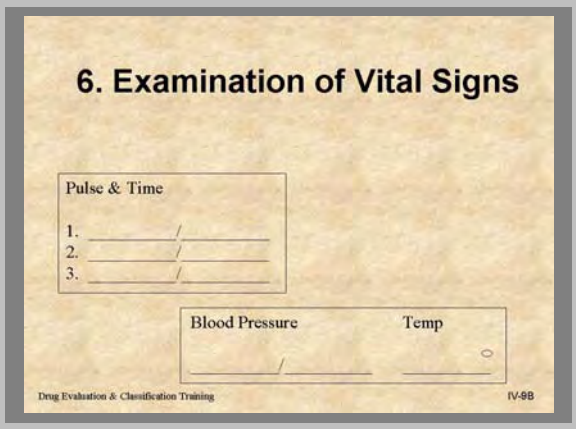
Session 4-9A: Examination of Vital Signs



Examinations of Vital Signs

Many categories of drugs affect the operation of the heart, lungs and other major organs of the body.

Session 4-9B: Examination of Vital Signs

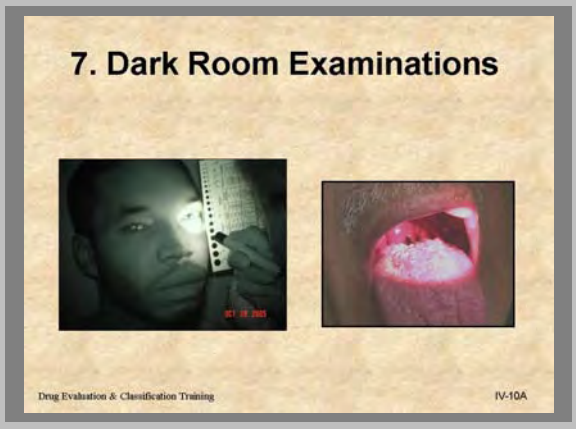


These effects show up during examination of the subject's vital signs.

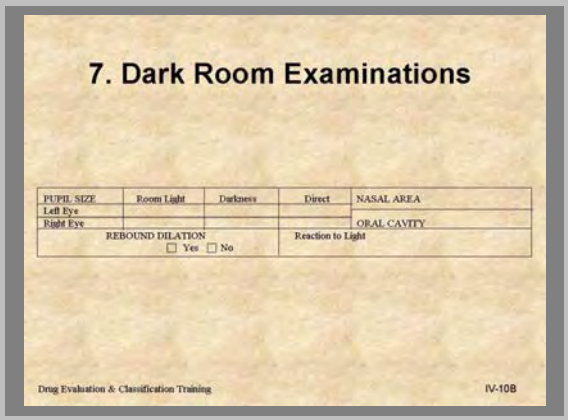
- Point out that the examinations of vital signs will be covered in depth later, and that students will have ample opportunity to practice measuring vital signs.

- The vital signs that are reliable indicators of drug influence include blood pressure, pulse, and temperature.

Session 4-10A: Dark Room Examinations



Session 4-10B: Dark Room Examinations



Dark Room Examinations

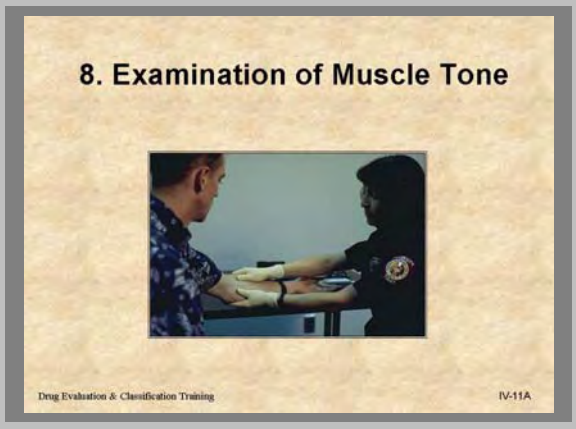
Many categories of drugs affect how the pupils will appear, and how they respond to light.

- Certain kinds of drugs will cause the pupils to widen dramatically, or dilate.
- Some other drugs cause the pupils to narrow, or constrict.
- 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.
    - Exhibit a penlight.
- We use a device called a pupillometer to estimate the size of the subject's pupils.
    - Exhibit a pupillometer.
    - Point out that the pupillometer has a series of circles or semi-circles of various sizes.
    - By lining the circles up along side the subject's pupil, the pupil's size can be determined.

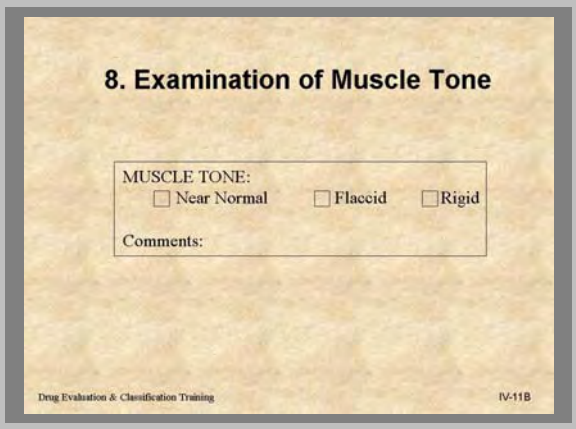
- Point out that students will have several opportunities to practice conducting dark room examinations later in the course.

- 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.

Session 4-11A: Examination of Muscle Tone



Session 4-11B: Examination of Muscle Tone



Examination for Muscle Tone

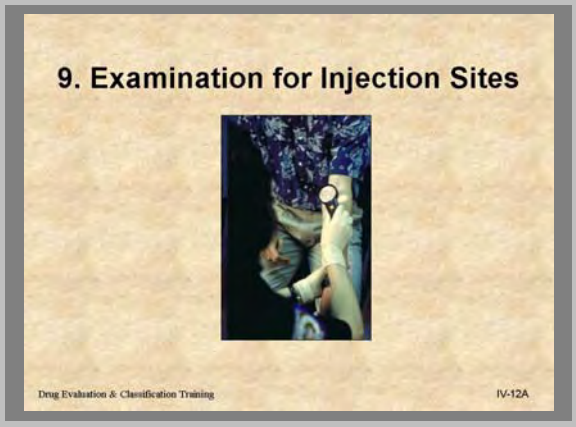
- Certain categories of drugs can cause the user's muscles to become markedly tense, and rigid. Others may cause flaccidity, or "rubbery-like" muscle tone.

- Evidence of this muscle tone may come to light when the subject attempts to perform the divided attention tests.

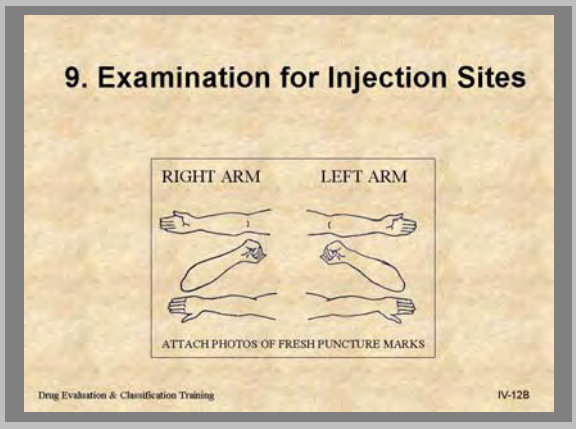
- Point out that examination for muscle tone will be covered in greater depth subsequently in the course.

- Evidence of muscle tone can also be observed when taking the subject's pulse, blood pressure or while examining for injection sites.

Session 4-12A: Examination for Injection Sites



Session 4-12B: Examination for Injection Sites



Examination for Injection Sites

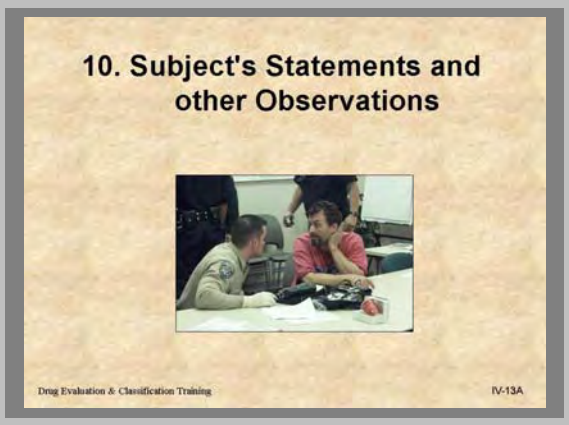
Certain drugs are commonly injected by their users, via hypodermic needles.

Ask students: "What drug is most often associated with injection via hypodermic needle?"

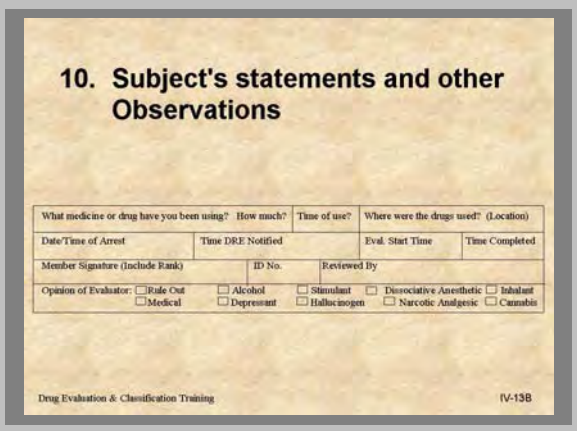
- Heroin is probably most commonly associated with injection, but several other types of drugs also are injected by many users.

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

Session 4-13A: Subject's Statements and other Observations



Session 4-13B: Subject's Statements and other Observations



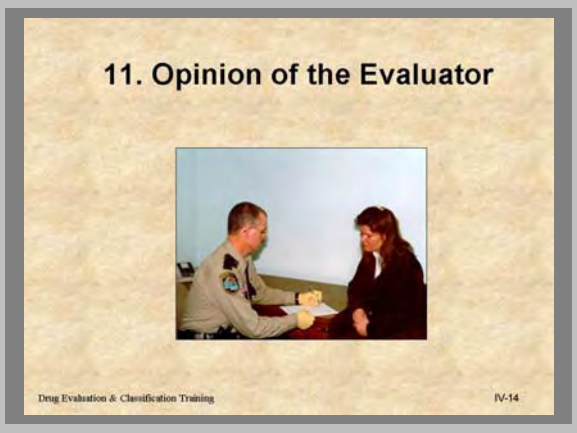
Subject's Statement and Other Observations

At this point in the examination, the trained DRE should have reasonable grounds to believe that the subject 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 subject to confirm their opinion concerning the drug category or categories involved.
- Emphasize that any such interview can proceed only in conformance with formal admonition and strict observance of the subject's Miranda rights.
- The DRE must carefully record the subject's statements, and any other observations that may constitute relevant evidence of drug induced impairment.
- Point out that the appropriate procedures for interviewing subjects vary with the probable category or categories of drugs involved.

Session 4-14: Opinion of the Evaluator

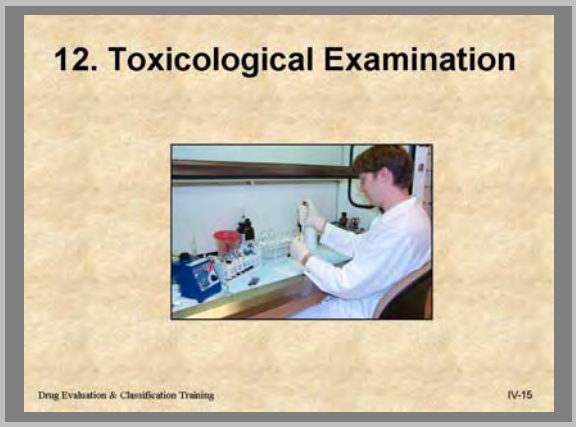


Opinion of Evaluator

Based on all of the evidence and observations gleaned from the preceding ten steps, the DRE should be able to reach an informed conclusion as to:

- Whether the subject is under the influence of a drug or drugs, and if so,
- The probable category or categories of drugs causing impairment.
- The DRE must record a narrative summary of the facts forming the basis for their conclusion.

Session 4-15: Toxicological Examination



Toxicological Examination

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.

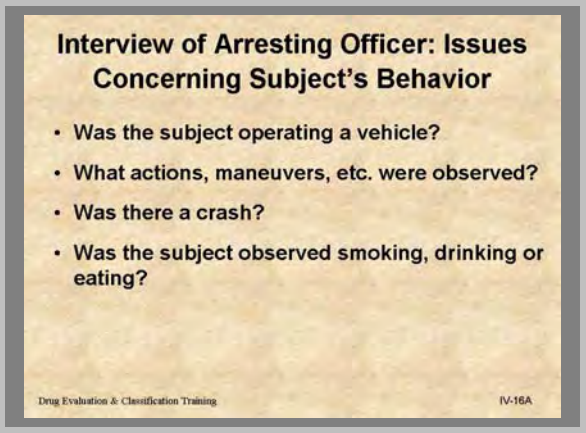
Solicit students' comments and questions concerning this preview of the Drug Evaluation and Classification procedures.

B. Interview of the Arresting Officer

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.

Session 4-16A: Interview of Arresting Officer

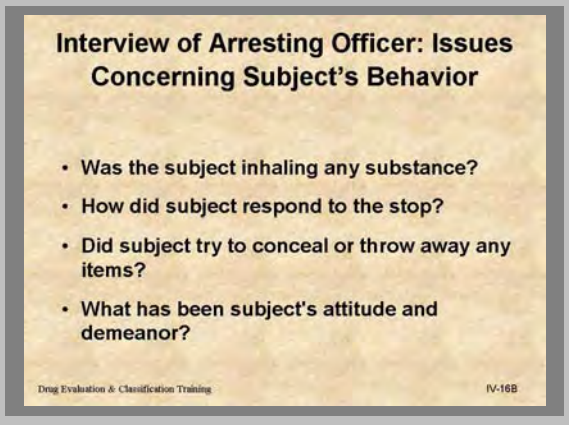


Interview Behavior

Issues concerning the subject's behavior:

- Was the subject operating a vehicle?
- What actions, maneuvers, etc. were observed?
- Was there a crash? If yes, was the subject injured?
- Was the subject observed smoking, drinking or eating?

Session 4-16B: Interview of Arresting Officer



- Was the subject apparently inhaling any substance?
- How did the subject respond to the arresting officer's stop?
- Did the subject attempt to conceal or throw away any items or materials?
- What has been the subject's attitude and demeanor during contact with the arresting officer and have there been any changes?

Ask students to suggest any other questions that might be relevant concerning the arresting officer's observations of the subject's behavior.

- Remind the students that they are acting as investigators and advisors to the arresting officers.

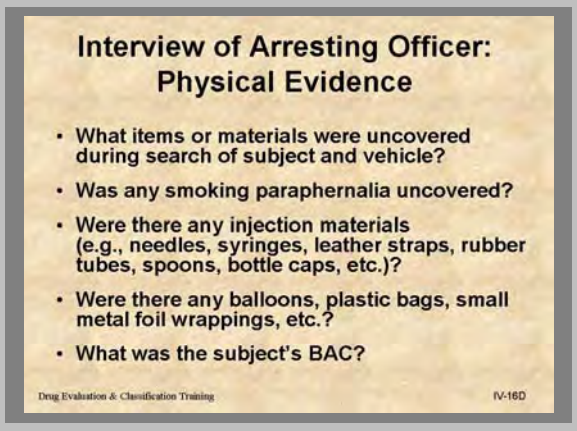
Session 4-16C: Interview of Arresting Officer

Interview Concerning Subject's Statements

- Has the subject complained of an illness or injury?
- Has the subject used any "street terms" or slang associated with drugs or drug paraphernalia?
- How has the subject responded to the arresting officer's questions?
- Was the subject's speech slurred, slow, rapid, thick, mumbled, etc.?
- What, specifically, has the subject said to the arresting officer?

Ask students to suggest any other questions that might be relevant concerning statements the subject made in the arresting officer's presence.

Session 4-16D: Interview of Arresting Officer



Interview: Physical Evidence

Issues concerning physical evidence:

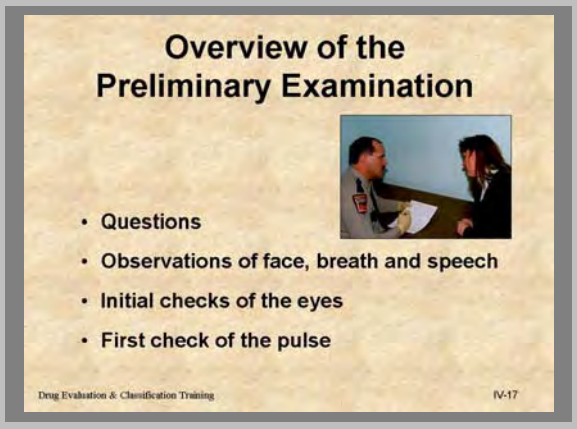
- What items or materials were uncovered during the search of the subject or vehicle?
- Were any smoking paraphernalia uncovered?
- Were any injection materials, i.e., needles, syringes, leather straps, rubber tubes, spoons, bottle caps, etc. found?
- Were there any balloons, plastic bags, small metal foil wrappings, etc. found?
- What was the subject's blood alcohol concentration?
    - 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.

C. The Preliminary Examination

Session 4-17: Overview of the Preliminary Examination

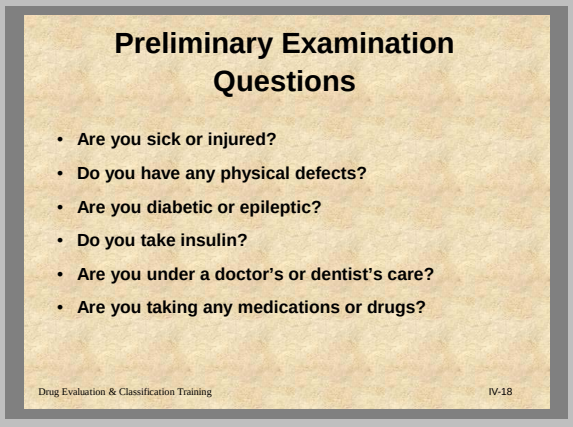


Preliminary Examination Overview

The preliminary examination consists of:

- Questions.
- Observations of face, breath, and speech.
- Initial checks of the eyes.
- 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 during the drug influence evaluation.

Session 4-18: Preliminary Examination Questions



Preliminary Examination Questions

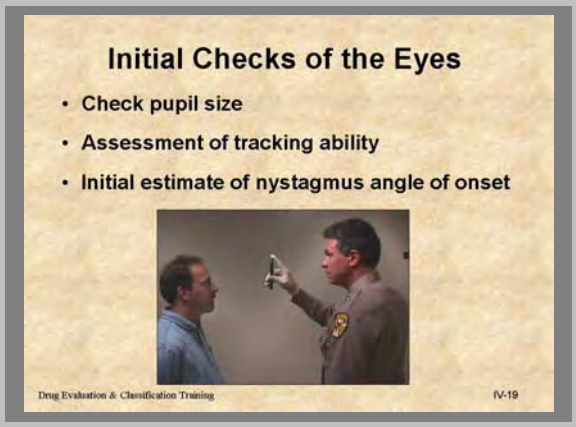
The questions deal with injuries or medical problems the subject may have. They include:

- 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.

Briefly discuss the relevance of each question.

- 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 or dentist's care?
- Are you taking any medications or drugs?

Session 4-19: Initial Checks of the Eyes



Initial Checks of the Eyes

The initial checks of the subject's eyes include several particularly important items.

- Check of the size of each pupil.
  - A pupillometer is a device to estimate the size of the subject's pupils.
  - 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.
- 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.
- Initial estimation of the angle of onset of Horizontal Gaze Nystagmus.

- The approximate angle of onset may indicate the presence of some drug other than alcohol.

- Point out that certain categories of drugs cause Horizontal Gaze Nystagmus. For example, this will be true of CNS Depressants, Inhalants and Dissociative Anesthetics.

- 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 angle of onset of nystagmus. Generally speaking, the higher the BAC, the earlier the angle of onset.

But, if the subject has also ingested some other drug that also causes Nystagmus, the angle of onset may occur even earlier than the Blood Alcohol Concentration would indicate.

- Example: Suppose you are examining a subject who has an angle of onset at 45 degrees.

Based on that alone, you would expect the person's BAC to be in the .05 - .08 percent range. But if that subject has also ingested a Dissociative Anesthetic, the onset could occur much earlier, perhaps as soon as the eyes start to move to the side.

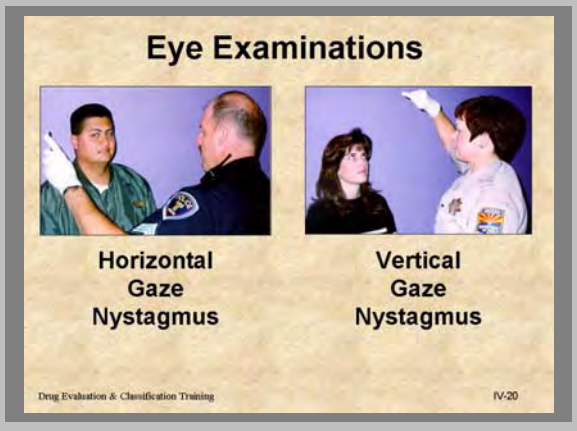
- Emphasize if the angle of onset does not match the BAC level the DRE should be alert to the possible presence of some drug other than alcohol.

- But also emphasize 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 not cause nystagmus, and will not affect the angle of onset.

D. Examinations of the Eyes

Session 4-20: Eye Examinations



Eye Examinations

Selectively reveal the items on the slide.

- Emphasize that this test is a full scale, formal and precise examination, unlike the initial estimation of angle of onset conducted during the preliminary examination.

The Examinations of the Eyes consist of three tests:

Horizontal Gaze Nystagmus (HGN)

- Clue #1 – Lack of smooth pursuit.
- Clue #2 – Distinct and sustained nystagmus at maximum deviation.
- Clue #3 – Angle of Onset
    - Point out if the subject's eyes begin to jerk before they have moved to the 30 degree angle, the DRE will not attempt to estimate the angle precisely, but will simply record that the subject exhibits "immediate onset."
- Point out the importance of checking for each of these clues in every examination of the eyes.

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 do not. Also point out that Vertical Gaze Nystagmus tends to develop with relatively high doses of certain drugs for that individual.

Session 4-20A: Eye Examinations (cont.)

Lack of Convergence

Illustrate on the dry erase board or flip-chart different examples of Lack of Convergence.

- Point out that Lack of Convergence is the inability of the eyes to draw in toward the center (cross) while fixating on a stimulus being moved in toward the bridge of the nose.

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.

- Point out that the circular motion (either left or right) serves to demonstrate that the subject is tracking the stimulus.

- Demonstrate this circular motion, using the student volunteer.

Then, the stimulus is slowly pushed in toward the bridge of the subject's nose and held for approximately one (1) second.

- Demonstrate, using the student volunteer.

- Point out that the stimulus does not actually touch the subjects nose, stopping approximately 2 inches from the nose.

Under the influence of certain types of drugs, the eyes may not be able to converge.

- Point out that many people may not be able to converge their eyes.

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

Solicit students' comments and questions concerning the Examinations of the Eyes.

E. Divided Attention Psychophysical Tests

Session 4-21: Divided Attention Tests

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

- Romberg Balance

    - Point out: the Romberg Balance test used by DREs is a modified version of the original test developed in the 19th Century.

    - 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."

- Walk and Turn

- One Leg Stand

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

- Finger to Nose

Point out that all of these tests were covered in their entirety in Session III of the Pre-School

Note: Instructors may need to review the tests. If so, the tests are detailed in the participant manual for this session.

Walk and Turn Demonstration

Instructions stage:

- Select a student known to be proficient in administering the Walk and Turn test.

- 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.

Ask the class if anything was missed or done incorrectly.

- 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.

One-Leg Stand Test Demonstration

Instructions stage:

- Select a student known to be proficient in administering the One-Leg Stand test.
- Select another student to serve as the test subject.
- Instruct the student administrator to administer the One-Leg Stand test to the student subject.
- Point out that officer safety is of major importance during this test.

Ask the class if anything was missed or done incorrectly.

- 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.

Finger to Nose Demonstration

Instructions stage:

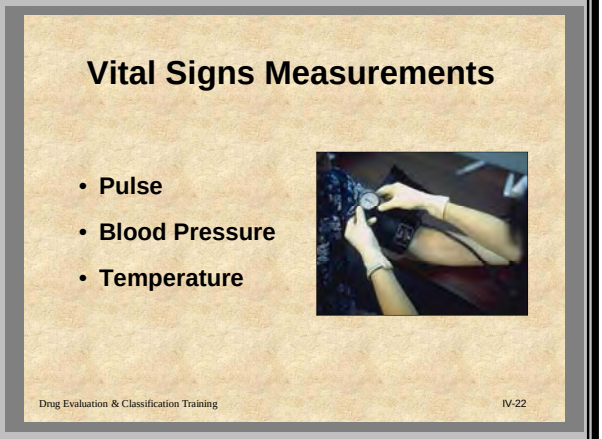
- Select a student known to be proficient in administering the Finger to Nose test to administer the test.
- Select another student to serve as the test subject.
- Instruct the student administrator to administer the test to the student subject.

Ask the class if anything was missed or done incorrectly.

- 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.

F. Examinations of Vital Signs

Session 4-22: Vital Signs Measurements



- Point out that these examinations will be covered in detail in Session VII.

The Vital Signs consist of three thing routinely measured in basic physical examinations.

- Pulse
- Blood Pressure
- Temperature

These measurements require some familiar instruments. Display these items.

- Stethoscope
- Blood pressure cuff and gauge (sphygmomanometer)
- Thermometer

NOTE: An oral thermometer with disposable mouthpieces is recommended.

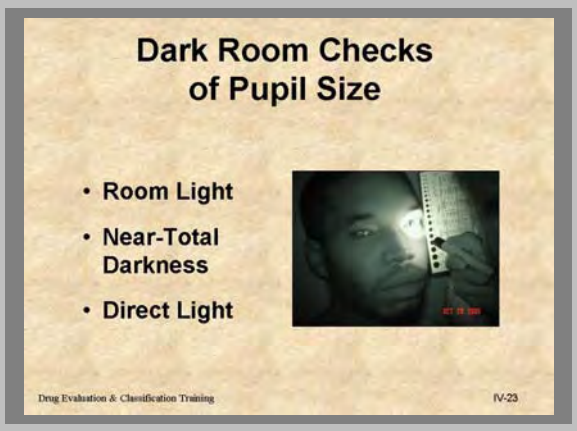
A time piece capable of measuring in seconds is also required.

- Point out that procedures for measuring blood pressure, pulse and temperature will be explained and practiced later in this course.

Solicit students' comments and questions concerning examinations of vital signs.

G. Dark Room Examinations

Session 4-23: Dark Room Checks of Pupil Size



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

- Room light.
- Near total darkness.
- Direct light.

Point out that the Room Light measurement is conducted prior to darkening the room lights. Whenever possible, the room light estimation should be conducted in the same room where the other pupil estimations are conducted.

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 carrying a weapon when in the presence of a subject during the dark room examination.

Room Light

Before turning off the lights, you will estimate the size of the subject's pupils under room light.

Point out that some departments require that the subject be handcuffed before going into the darkroom.

- 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.

- You must position the pupillometer alongside the eye to ensure an accurate estimation.

- 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.

Near Total Darkness

The next check will be of pupil size under near total darkness.

- You will need the bare minimum amount of light necessary to see the subject's pupils and the pupillometer.

- 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.

- The light is then moved near the subjects left eye just until it is possible to distinguish the colored portion of the eye (Iris).

- Hold the pupillometer alongside the eye and locate the circle or semi-circle closest in size to the pupil.

- Repeat the procedure for the right eye.

Direct Light

The third and final check will be of the pupil size under direct light.

- 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.

- Do this by bringing the light in from the side of the subject's face.

    - Demonstrate this, using a student volunteer.

- 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."

- When the light is initially shown into the eye, you will check for the pupil's reaction to light. Then immediately estimate the pupil size under direct light.

  - If possible, darken the room and exhibit the illumination using a student volunteer.

- Emphasize that it is very important not to position the penlight too closely or too far away, since this will affect the constriction or dilation of the pupil.

Excuse the student and thank him or her for participating.

Other Activities

Two other activities are conducted while in the darkroom.

- Examination of the nasal area.

- Examination of the oral cavity.

Solicit students' comments and questions concerning these checks of pupil size.

H. Examination of Muscle Tone

Session 4-24: Examination of Muscle Tone

Muscle Tone

Starting with the subject's left arm, examine the arm muscles.

Firmly grasp the upper arm and slowly move down to determine muscle tone.

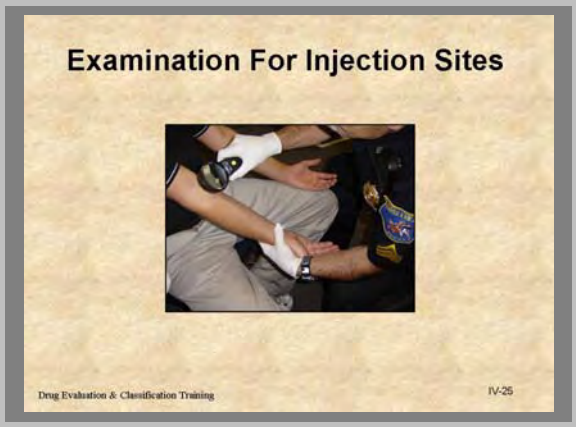
The muscles should appear flaccid, normal or rigid to the touch.

- Demonstrate.

Examine the right arm in the same fashion.

I. Examination for Injection Sites

Session 4-25: Examination for Injection Sites



Injection Sites

Some injection sites may be relatively easy to notice.

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

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

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

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

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

- Emphasize that gloves should be worn when touching the subject.

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

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

- "Ski" – short for schematic.

- Display this instrument. Demonstrate its use.

Solicit students' comments and questions concerning examination for injection sites.

Point out that 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.

During this step, the third pulse is taken.

J. Subject Statements

Session 4-26: Subject Statements

All spontaneous statements and subject's response to questions should be documented. Ask additional probing questions as appropriate.

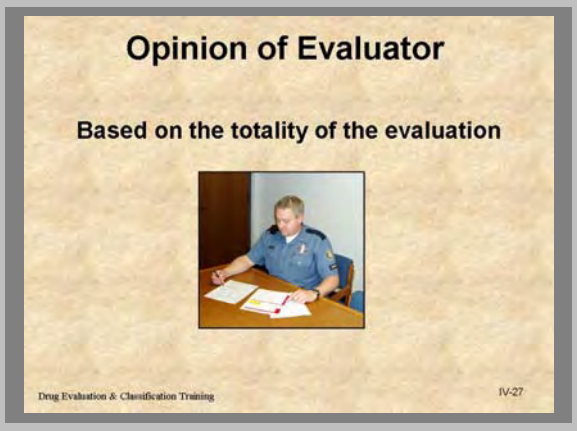
- Remind students to make sure the subject has been advised of their constitutional rights.

- Give specific examples of probing questions, admissions and denials.

Ask students for additional examples and list all on dry erase board or flip-chart.

K. Opinion of Evaluator

Session 4-27: Opinion of Evaluator

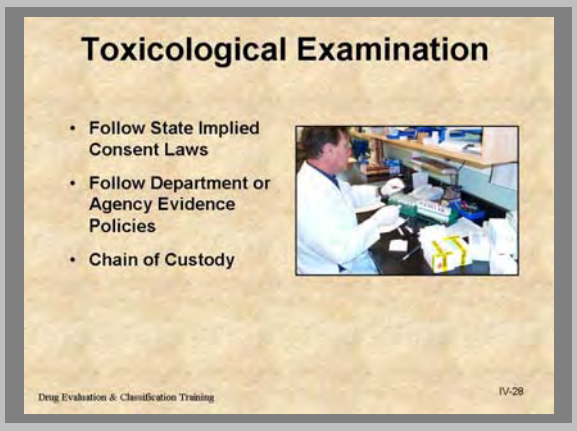


By this point in the evaluation, the DRE should have formed an opinion of the category or categories of drugs responsible for any observed impairment.

- This opinion is based on the totality of the evaluation.

L. Toxicological Examination

Session 4-28: Toxicological Examination



Toxicology Samples

Your State's implied consent statues will dictate the type of sample you can obtain; urine, blood, breath, or saliva.

- Review the students' department's policy and procedures for requesting, obtaining and handling toxicological samples.

Ask the students to relate the law 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.

Specimen Containers

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.

Containers should be sterile and have a lid that will seal tightly. Make sure the seal is tight to prevent leaks.

Obtaining a Sample

Urine – normally the officer must witness the collection of the sample.

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.

Chain of Custody

Establish a policy dictating the chain of custody, if one does not already exist.

Establish a policy for your Department on:

- The sealing of evidence to include officer identification markings; (i.e., initials, labels, tags and packaging).

- 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.

NOTE: 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.

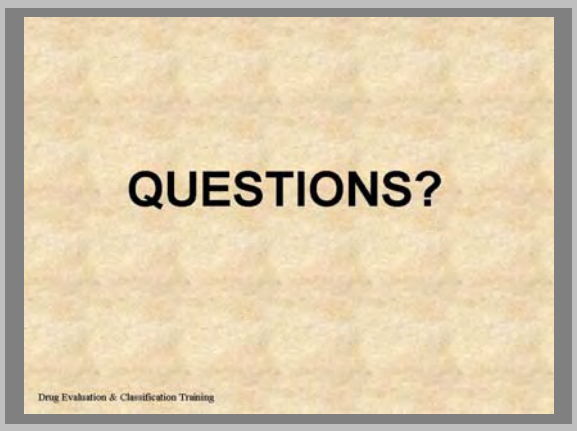
Solicit students' comments and questions concerning toxicological examinations.

M. Video Demonstrations (Optional)

- Instruct students to refer to their drug influence evaluation checklist and the drug evaluation form 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).

Session 4-29: Questions?



Solicit students' comments and questions.

DRUG INFLUENCE EVALUATION

Evaluator	DRE No.	Rolling Log No.	
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

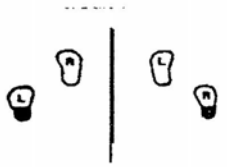
Pulse and time 1. ____/____ 2. ____/____ 3. ____/____	HGN Lack of smooth pursuit Maximum deviation Angle of onset	Left Eye ____ ____ ____	Right Eye ____ ____ ____

Vertical Nystagmus ☐ Yes ☐ No

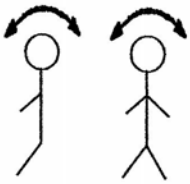
Convergence

Right eye Left eye

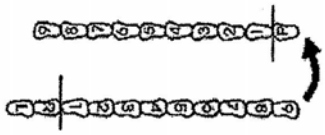
One Leg Stand



Romberg Balance



Walk and Turn test



Cannot keep balance	
Starts too soon:	

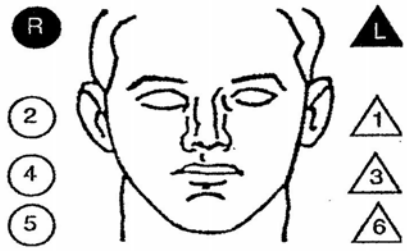
	1st Nine	2nd Nine
Stops walking		
Misses heel to toe		
Steps off line		
Raises arms		
Actual # steps		

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



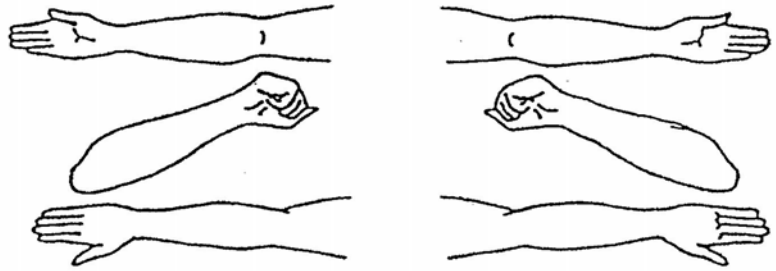
Pupil Size	Room Light	Darkness	Direct
Left			
Right			

Rebound dilation ☐ Yes ☐ No

Oral cavity:

Reaction to Light:

RIGHT ARM **LEFT ARM**



Blood pressure ____/____	Temperature ____ ^{0}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 ☐ Alcohol ☐ CNS Stimulant ☐ Dissociative Anesthetic ☐ Inhalant
☐ Medical ☐ CNS Depressant ☐ Hallucinogen ☐ Narcotic Analgesic ☐ Cannabis

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 Test 6. Vital Signs Exam 7. Dark Room Exam 8. Muscle Tone Exam 9. Injection Site Exam 10. Subject Interview 11. Opinion of the Evaluator 12. Toxicology

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

   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?

   BAC = 50 – Angle of Onset

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

1 Hour and 45 Minutes

SESSION V

EYE EXAMINATIONS: NYSTAGMUS, CONVERGENCE, PUPIL SIZE AND REACTION TIME

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

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

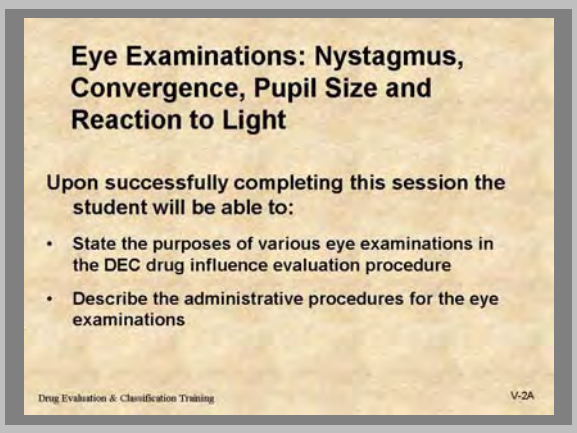
- State the purpose of various eye examinations in the DEC drug influence evaluation procedure.
- Describe the administrative procedures for the eye examinations.
- Describe the clues for each eye examination.
- Conduct the eye examinations and note the clues observed.
- Prepare complete, clear and accurate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

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Purpose of the Examinations	▪ Instructor Led Presentations
B. Procedures and Clues	▪ Instructor Led Demonstrations
C. Demonstrations	▪ Student Led Demonstrations
D. Document Procedures	▪ Students' Hands On Practice
E. Practice	▪ Reading Assignments

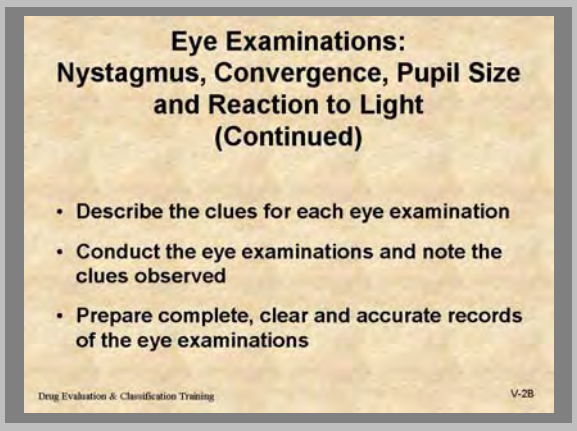
I. EYE EXAMINATIONS

Session 5-1: Eye Examinations

Session 5-2A: Eye Examinations: Nystagmus, Convergence,…



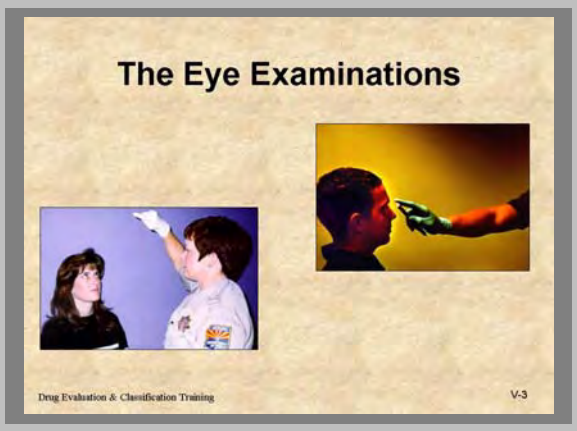
Session 5-2B: Eye Examinations: Nystagmus, Convergence,…(cont.)



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

A. Purposes of the Eye Examinations

Session 5-3: The Eye Examinations



The principle purpose of all of the eye examinations is to obtain articulable facts indicating the presence or absence of specific categories of drugs.

- Certain drug categories usually cause the eyes to react in specific ways.
- Other drug categories usually do not cause those reactions.

The tests of Horizontal and Vertical Gaze Nystagmus provide important indicators of the drug categories that may or may not be present.

Ask students: "What causes Horizontal Gaze Nystagmus?" Alcohol and certain other drugs will cause Horizontal Gaze Nystagmus.

- 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.

- 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.

- 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 angle of onset 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.

The consistency of the angle of onset and BAC can be compared using the following formula:

Write the formula on the dry erase board or flip-chart:

BAC = 50 – Angle of Onset

- 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)

Example: If onset angle is 35 degrees, then: BAC = 50 – 35 = 15

The corresponding blood alcohol concentration would be approximately 0.15.

- 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.

- The purpose of comparing BAC and angle of onset is to obtain a gross indication of the possible presence of another CNS Depressant, a Dissociative Anesthetic, or an Inhalant.

- Emphasize that many other facts will also be considered that will help to determine whether Dissociative Anesthetics may be present.

The check for Lack of Convergence can provide another clue as to the possible presence of Depressants, Dissociative Anesthetics, or Inhalants.

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.

The checks of pupil size and reaction to light provide useful indicators of the possible presence of many drug categories.

- CNS Depressants, CNS Stimulants, and inhalants will normally cause the pupils to react slowly. There will generally be little or no movement with Narcotic Analgesics.

- CNS Stimulants and Hallucinogens normally will cause the pupils to dilate.

- Cannabis normally causes dilation of the pupils, although this isn't always observed.

- 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.

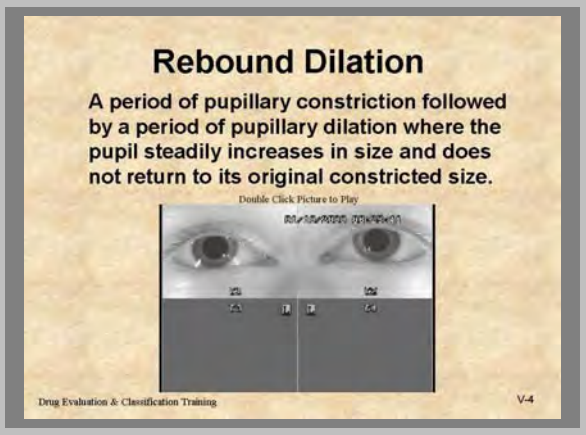
- Some specific Inhalants may cause pupil dilation.

- Narcotic Analgesics will normally cause observable constriction of the pupils.

During the eye examinations you will also check for rebound dilation.

Note: A revision that removed the check for Hippus was approved by the IACP Technical Advisory Panel (TAP), November 2008.

Session 5-4: Rebound Dilation



Powerpoint slide V-4 includes a short video example of Rebound Dilation.

Print on dry erase board or flip-chart: "REBOUND DILATION."

- Rebound dilation is defined as a period of pupillary constriction followed by a period of pupillary dilation where the pupil steadily increases in size and does not return to its original constricted size.

Note: This revision was approved by the IACP Technical Advisory Panel (TAP), November 2008.

- Point out: The DRE will record rebound dilation if observed by recording the constricted or the smallest size and the largest or dilated size, i.e., 3.0 - 4.5 mm.

- Example: The pupil is estimated at 8.5mm in near total darkness. Once the penlight is shined into the pupil it constricts to 4.0 mm in the first 2 - 3 seconds. It then steadily dilates to 6.0 mm and remains that diameter for the remainder of the 15 second period while the direct light is shined into the eyes.

- Rebound dilation has been reported with persons impaired by drugs that cause pupillary dilation. Cannabis is most common.

- Point out that this term is defined in the glossary at the front of the Student's Manual.

Solicit students' comments and questions concerning the purposes of the eye examinations.

Pupillary Unrest

Another eye sign that may be observed by the DRE is Pupillary Unrest.

- Pupillary Unrest is defined as the continuous, irregular change in the size of the pupils that may be observed under room or steady light conditions.

- The unique indicators of Pupillary Unrest are the unevenness and fluctuations in the rate and size of the pupils under lighted conditions and its disappearance in darkness.

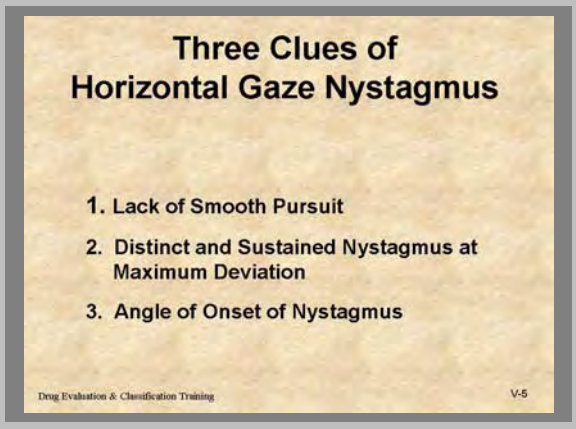
- Pupillary Unrest may be similar to "Hippus" which is defined as a rhythmic change in the pupil size of the eyes, as they dilate and constrict when observed in darkness independent of changes in light intensity, accommodation (focusing), or other forms of sensory stimulation.

Note: This new definition was approved by the IACP Technical Advisory Panel (TAP), November 2008.

Note: Research has shown that Hippus is primarily observed in total darkness conditions and is therefore difficult to detect under the current DRE protocol. Pupillary Unrest has at times been associated with the downside of drugs or polydrug use.

B. Procedures and Clues

Session 5-5: Three Clues of Horizontal Gaze Nystagmus



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

Session 5-5A: First Clue: Lack of Smooth Pursuit

First Clue: Lack of Smooth Pursuit

- The first check is for "lack of smooth pursuit."
- If the subject is wearing eyeglasses, have him or her remove them.

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

- 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.

- Position the stimulus approximately 12 – 15 inches in front of the subject's nose.

- Hold the tip of the stimulus slightly above the level of the subject's eye.

- Point out that this procedure ensures that the subject's eyes will be wide open and easy to observe.

- Instruct the subject to hold the head still and follow the stimulus with the eyes.

- Move the stimulus smoothly, all the way to the subject's left side and back all the way to the right side.

- 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.

- 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.

- 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.

- While the eye is moving, examine it for evidence of a lack of smooth pursuit.

Use these or similar analogies:

- A smoothly pursing 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.

- A smoothly pursuing eye will roll in the socket the way that a marble or ball bearing would glide smoothly across a polished pane of glass. An eye exhibiting lack of smooth pursuit would move more like that marble rolling over a sheet of heavy gauge sandpaper.

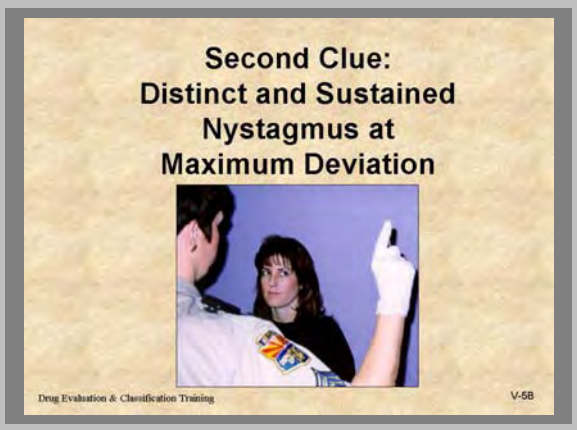
Also, check to be sure that both eyes are tracking in the same way: if one eye is moving smoothly but the other moves hesitantly or not at all, an illness or injury may be present.

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

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

Monitor, coach and critique the students' practice.

Session 5-5B: Second Clue: Distinct and Sustained Nystagmus



Second Clue: Distinct and Sustained Nystagmus

- The second check is for "distinct and sustained nystagmus at maximum deviation."

Select a student and demonstrate the second check of HGN on that student.

- Again position the stimulus as before.
- 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.
- Hold the eye at that position for a minimum of 4 seconds, to check 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.
- 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 or is not present.

- 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.

- A slight or barely visible tremor is not sufficient to consider this clue present.

- A definite, sustained jerking must be seen.

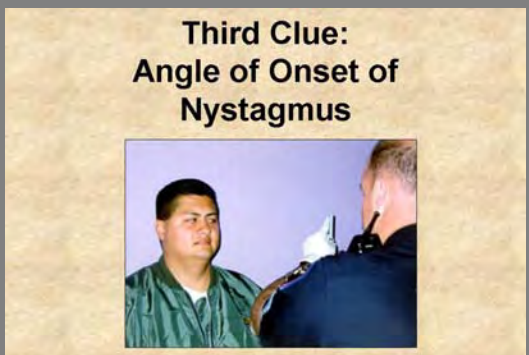
Excuse the student volunteer and thank him or her for participating.

Instruct students to work in pairs, taking turns checking each other's eyes for distinct and sustained nystagmus at maximum deviation.

Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 2 minutes.

Session 5-5C: Third Clue: Angle of Onset of Nystagmus



Third Clue: Angle of Onset

- The final check is for the "angle of onset."

Select a student and demonstrate the third check of HGN on that student.

- Position the stimulus as before.

- 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.

- When you think that you see the eye jerk, stop moving the stimulus and hold it still.

- 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.

- Once you have established that you have located the point of onset, estimate the angle.

- Point out that angle estimation simply requires practice.

- Then, repeat the process for the right eye.

- Then, again check onset for the left eye, and again for the right.

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

Exhibit a template.

- Point out that the template will be used during practice only.

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

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 partner's eyes to three different angles:

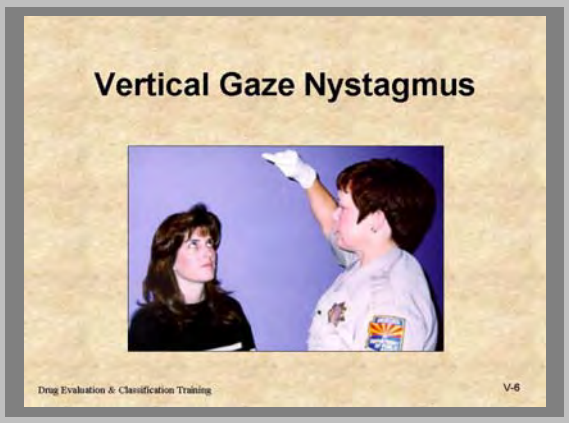
- 30 degrees
- 35 degrees
- 40 degrees

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.

Session 5-6: Vertical Gaze Nystagmus



Vertical Gaze Nystagmus

The Vertical Gaze Nystagmus test is very simple check of the eyes.

Select a student and demonstrate the Vertical Gaze Nystagmus test on the student.

- Position the stimulus horizontally, approximately 12 – 15 inches in front of the subject's nose.
- Instruct the subject to hold the head still and follow the stimulus with the eyes only.
- Raise the stimulus until the subject's eyes are elevated as far as possible.
- Watch closely for evidence of jerking.
- Point out that the examiner should keep the subject's eyes elevated for approximately four (4) seconds to verify that the jerking really is present.
- Point out that it is permissible to repeat the VGN check to verify if the jerking was or was not observed.

Excuse the student volunteer and than them for participating.

Students' Initial Practice of the Vertical Gaze Nystagmus Test

Instruct students to work in pairs, taking turns administering the Vertical Gaze Nystagmus test to each other.

Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 2 minutes.

Session 5-7: Lack of Convergence

Lack of Convergence

The test for Lack of Convergence is also very simple.

Select a student and demonstrate the check for Lack of Convergence on that student.

- Lack of Convergence means an inability to cross the eyes.
- Prior to conducting the check for Lack of Convergence the DRE should determine if the subject to be tested routinely wears eyeglasses during reading and near visual tasks and if so, are they readily available for the test.

- If the subject wears glasses during reading and near visual tasks and they are readily available, ensure that the eyeglasses are worn for the check for Lack of Convergence.

- Note: In testing for LOC, the role of clear vision and focusing can have significant effect on the convergence of the eyes. In the clinical setting, the LOC check is routinely conducted with the eyeglasses on if

normally worn by the subject during reading and near visual tasks. If the subject's eyeglasses are not readily available, the DRE should still conduct the test.

Note: This revision to the LOC exam was approved by the IACP Technical Advisory Panel (TAP), November 2008.

- Note: Citations for clinical use of testing with subject wearing eyeglasses for LOC:
  - "Clinical Procedures for Ocular Examination": Kurtz and Carlson; McGraw-Hill Medical, 3rd edition, Sept. 26, 2003.
  - "A Recognized Clinical Trial of Treatments for Convergence Insufficiency in Children": Scheiman, Cotter, Cooper, et.; Arch Ophthalmol, Jan 2005.
- Position the stimulus approximately 12-15 inches in front of the subject's face.
- Instruct the person to hold their head still and follow the stimulus with the eyes only.
- Keep the object 12-15 inches away from the person's nose, and start to move the stimulus slowly in a circle, approximately the same size as the subject's face.
- Point out that this initial circular motion helps to verify that the subject has focused on the stimulus and is able to track it. Emphasize that it doesn't matter whether the circular motion is clockwise or counter-clockwise.
- Once you have verified that the subject is tracking the stimulus, move it slowly and steadily toward the bridge of the nose.
- Hold the stimulus near the bridge of the nose for approximately one (1) second. The stimulus should not come any closer than approximately two (2) inches from the bridge of the nose.
- Carefully observe the subject's eyes to determine whether both eyes converge.
- Point out that if the subject being tested is wearing contact lenses, make note of the fact and conduct the check for LOC as normal.

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

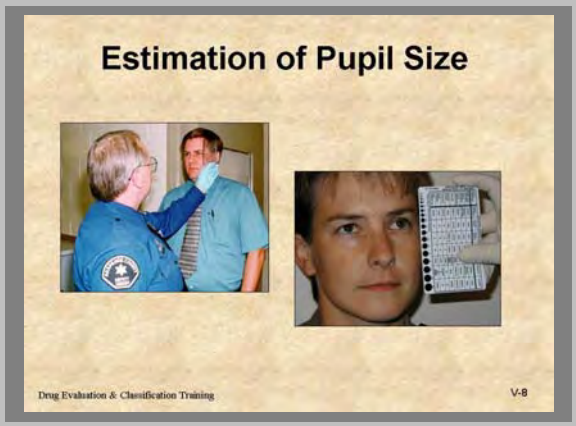
Students' Initial Practice of the Check for the Lack of Convergence

Instruct students to work in pairs, taking turns testing each other's eyes for Lack of Convergence.

Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 2 minutes.

Session 5-8: Estimation of Pupil Size



Estimating Pupil Size

- The pupils of our eyes continually adjust in size to accommodate different lighting conditions.
- We use a device called a pupillometer to estimate the size of the subject's pupils.

Exhibit a pupillometer.

- 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.

- 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 "Accomodation 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.

Note: Refer students to the glossary of terms in their manual for the definition of Accommodation Reflex.

This should not be confused with pupillary unrest, the continuous, irregular change in the size of the pupils that may be observed under room or steady light conditions or with pupillary light reflex which is the pupil's normal reaction to the changes in light. Point out the importance of keeping the stimulus steady and having the subject maintain his/her focus on the stimulus.

Demonstrate the Accommodation Reflex by having the students focus on an object very close and one at a distance.

Note: Accomodation Reflex was approved for addition into this session by the IACP Technical Advisory Panel (TAP), November 2008.

The Three Lighting Conditions

Write on the dry erase board or flip-chart "The Three Lighting Conditions."

Pupil sizes are estimated under three different lighting conditions:

- Room Light
- Near Total Darkness
- Direct Light

Estimation of Pupil Size under Room Light

- 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.

Student's Initial Practice of Pupil Size Estimation

Instruct students to work in pairs, taking turns checking each other's pupils.

- 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.

Estimation of Pupil Size under Near Total Darkness

- 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.

Demonstrate this.

Select a student to participate in demonstrations of darkroom pupil estimations.

- 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.

- 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.

- Repeat this procedure for the subject's right eye.

Demonstrate this.

Estimation of Pupil Size under Direct Light

- Bring the penlight from the side of the subject's face and shine it directly into their left eye.

Demonstrate this.

- 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.

- Hold the penlight in that position for 15 seconds, and bring the pupillometer up alongside the left eye.

- Find the circle or semi-circle that is closest in size to the pupil.

- Remind students to position the penlight so that the beam exactly "fits" the eye socket when the beam is brought directly into the eye.

- Repeat this procedure for the subject's right 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.

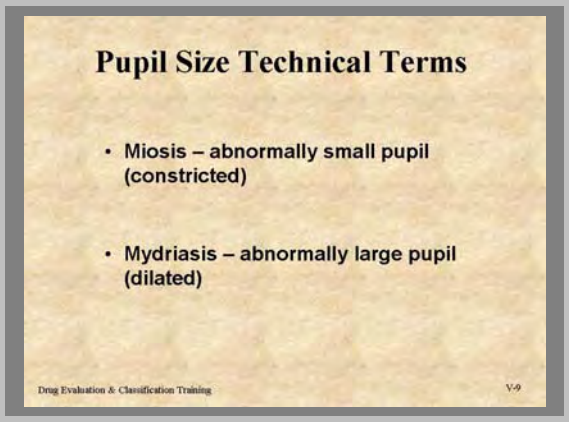
Normal Sizes for the Pupil

- For most people, even under very bright light the pupils will not constrict much below a diameter of 2.0 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.

Session 5-9: Pupil Size Technical Terms



Technical Terms

Two key technical terms regarding pupil sizes are: Miosis – abnormally small pupil, i.e., constricted, and Mydriasis – an abnormally large pupil, i.e., dilated.

Write average pupil size and ranges for the following lighting levels on a flipchart or dry erase board.

- 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.

- 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.

- 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.

Reaction to Light

Assessment of the pupil's reaction to light takes place immediately before the check of pupil size under direct light.

- 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.

- As you bring the beam of light directly into the subject's eye, note how the pupil reacts.

Demonstrate this.

- Under ordinary conditions, the pupil should react very quickly, and constrict noticeably when the light beam strikes the eye.
- Under the influence of certain categories of drugs, the pupil's reaction may be slow, 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.
- Hold the direct light on the subject's eye for 15 seconds to assess pupil reaction.
- Also check for Rebound Dilation during this 15 second 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.
- When you have completed this process for the left eye, repeat it for the right eye.
- Students' initial practice in assessing the pupil's reaction to light.

Have students work in pairs, checking each others pupil reaction.

C. Demonstrations

Demonstration of Horizontal Gaze Nystagmus

Select two students to come before the class.

Check for Lack of Smooth Pursuit

Instruct one student to demonstrate the administration of Horizontal Gaze Nystagmus to the other student.

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.

Estimation of Angle of Onset

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 than them for participating.

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.

Excuse the two students and thank them for participating.

Demonstration of Pupil Size Checks and Test for Reaction to Light

Select two other students to come before the class.

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.

Darkroom Checks of Pupil Size

- Near total darkness
- Direct light

Instruct the second student to demonstrate how to perform the dark room checks of pupil size.

Coach and critique the student administrator's performance.

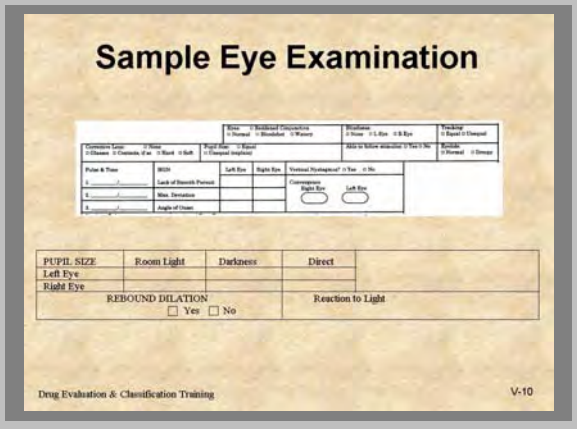
- Point out that assessment of the pupil's reaction to light takes place in conjunction with the direct light check.

Excuse the two students and thank them for participating.

Solicit students' comments and questions concerning these demonstrations of the eye examinations.

D. Documentation Procedures

Session 5-10: Sample Eye Examination



Instruct students to turn to the Standardized Drug Influence Evaluation Form in their manuals, or handout forms to the students.

A brief examination of the eyes is made during the Preliminary Examination.

- Check for equal pupil size.
- Check for resting nystagmus.
- Assessment of tracking ability.
- Initial assessment of Nystagmus angle of onset.
- The next section of the form is devoted to the Eye Examinations.
- Point out that section of the form.

Horizontal Gaze Nystagmus

- Emphasize that all three checks of the HGN test must be documented for each eye.
- Remind students that they must indicate the numerical number of the angle of onset and not just check-mark the box.

Vertical Gaze Nystagmus

- Point out that "yes" implies that Vertical Gaze Nystagmus was present, "No" implies that it was not present.

Lack of Convergence

- Point out that it will be necessary to diagram the movement of the eyes.

The darkroom eye examinations are documented in a subsequent section of the form.

- Point out the location of that section.

- Emphasize that all darkroom checks of the eyes must be performed and documented independently for each eye.

Solicit students' comments and questions concerning procedures for documenting the eye examinations.

E. Practice

Instruct students to practice in pairs.

Each student will conduct a complete set of eye examinations on his or her partner.

Students then will "reverse roles."

Preliminary Eye Exams

Tell the students to record their estimations of their partner's pupil sizes on the standard Drug Influence Evaluation Form.

Monitor, coach and critique students' practice.

- Check for equal pupil size.

- Check for resting nystagmus.

- Assessment of tracking ability.

- Initial estimation of nystagmus angle of onset.

Eye Exams

Make sure each student administers a complete series of eye examinations at least once.

- Horizontal Gaze Nystagmus.

- Vertical Gaze Nystagmus.
- Lack of Convergence.

Pupil Size Estimations

- Room Light.
- Near Total Darkness.
- Direct Light.

If possible, the training room should be at least somewhat darkened for this final stage of practice.

Reporting out of Pupil Size Estimations

Instructor: While the students practice is still going on, print the matrix at the end of this session on the dry erase board or flip-chart.

Tell the students that we will tabulate the pupil sizes of everyone in the class, for each of the three lighting conditions. For simplicity, tell the students that we will tabulate the left eye pupil sizes only.

Room Light Tabulation:

- Direct the students' attention to the first column of the matrix.

Say: "Let's concentrate now only on the room light estimations."

Ask: "How many of you found that your partners had pupils of 2.0 mm or less in room light?" (Get a show of hands; count them; print the number in the first box of the first column).

Then ask: "How many had partners with a 2.5 mm pupil in room light?" (Count the hands and print the number in the 2nd box).

Continue this until you get to the last box in the 1st column: "How many had partners with pupils of 8.0 mm or larger?" (Count the hands; print the number).

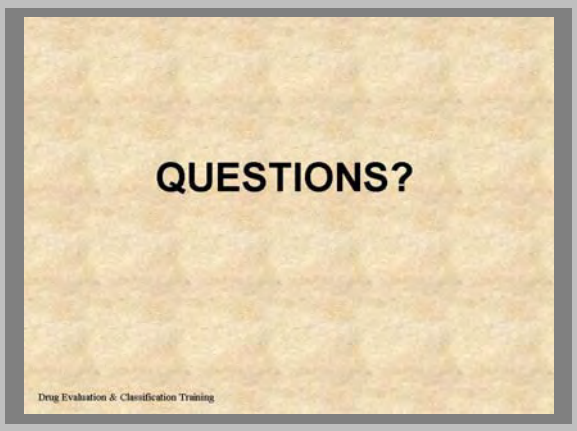
Near Total Darkness Tabulation:

- Repeat this process for each of the other two lighting conditions.

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.

Session 5-11: Questions



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 and above			

Attachment A

PARTICIPANT PROFICIENCY EXAMINATION
STANDARDIZED FIELD SOBRIETY TEST BATTERY

Participant Name: _____ Date: _____

I. HORIZONTAL GAZE NYSTAGMUS

_____ 1. Have subject remove glasses if worn.

*_____ 2. Stimulus held in proper position (approximately 12"-15" from nose, just slightly above eye level.

_____ 3. Check for equal pupil size and resting nystagmus.

_____ 4. Check for equal tracking.

*_____ 5. Smooth movement from center of nose to maximum deviation in approximately 2 seconds and then back across subject's face to maximum deviation in right eye, then back to center. Check left eye, then right eye. (Repeat)

*_____ 6. Eye held at maximum deviation for a minimum of 4 seconds (no white showing). Check left eye, then right eye. (Repeat)

*_____ 7. Eye moved slowly (approximately 4 seconds) from center to 45 angle. Check left eye, then right eye. (Repeat)

_____ 8. Check for Vertical Gaze Nystagmus. (Repeat)

II. WALK-AND-TURN

_____ 1. Instructions given from a safe position.

*_____ 2. Tells subject to place feet on a line in heel-to-toe manner (left foot behind right foot) with arms at sides and gives demonstration.

*_____ 3. Tells subject not to begin test until instructed to do so and asks if subject understands.

*_____ 4. Tells subject to take nine heel-to-toe steps on the line and demonstrates.

*_____ 5. Explains and demonstrates turning procedure.

*_____ 6. Tells subject to return on the line taking nine heel-to-toe steps.

*_____ 7. Tells subject to count steps out loud.

*_____ 8. Tells subject to look at feet while walking.

*_____ 9. Tells subject not to raise arms from sides.

*_____ 10. Tells subject not to stop once they begin.

*_____ 11. Asks subject if all instructions are understood.

III. ONE-LEG STAND

_____ 1. Instructions given from a safe position.

_____ 2. Tells subject to stand straight, place feet together, and hold arms at sides.

_____ 3. Tells subject not to begin test until instructed to do so and asked if subject understands.

*_____ 4. Tells subject to raise one leg, either leg, approximately 6" from the ground, keeping raised foot parallel to the ground, and gives demonstration.

*_____ 5. Tells subject to keep both legs straight and to look at elevated foot.

*_____ 6. Tells subject to count out loud in the following manner: one thousand one, one thousand two, one thousand three, until told to stop, and gives demonstration.

_____ 7. Checks actual time subject holds leg up. (Time for 30 seconds.)

Instructor: _____

Note: In order to pass the proficiency examination, the student must explain and cannot omit the numbers marked with an asterisk (*).

2 Hours

SESSION VI

PHYSIOLOGY AND DRUGS:
AN OVERVIEW

SESSION VI PHYSIOLOGY AND DRUGS: AN OVERVIEW

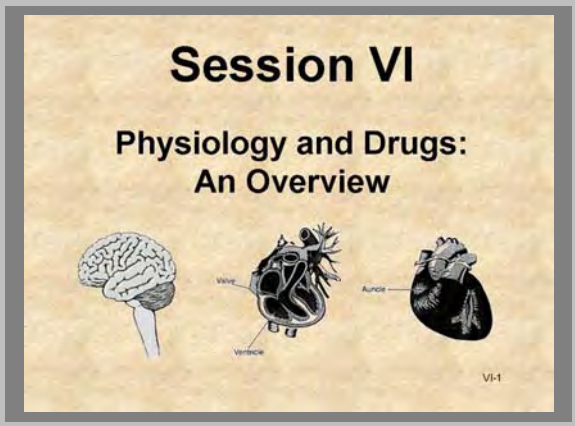
Upon successfully completing this session the student will be able to:

- 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.

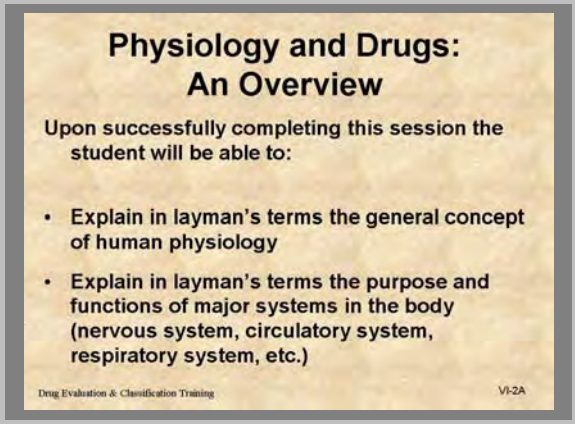
CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Physiology and Drugs: An Overview	▪ Instructor-Led Presentations
B. Body Systems	▪ Reading Assignments
C. The Concept of Homeostasis	
D. A Simple View of the Heart and Circulatory System	
E. A Simplified Concept of the Nervous System	
F. How Drugs Work	
G. Medical Conditions Which sometimes Mimic Drug Impairment	

A. Physiology and Drugs: An Overview

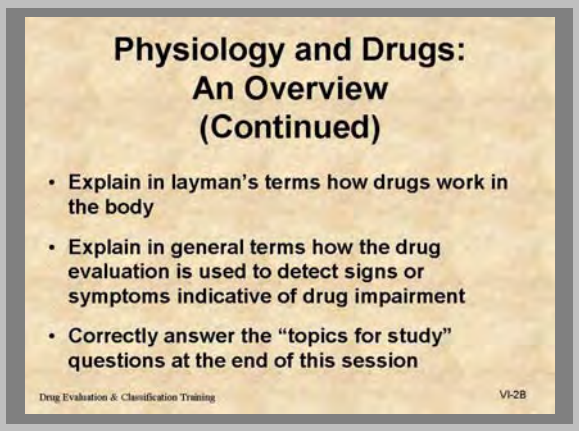
Session 6-1: Physiology and Drugs: An Overview



Session 6-2A: Physiology and Drugs: An Overview



Session 6-2B: Physiology and Drugs: An Overview (cont.)



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

Before we can understand how drugs work, we must have a basic understanding of how the body works.

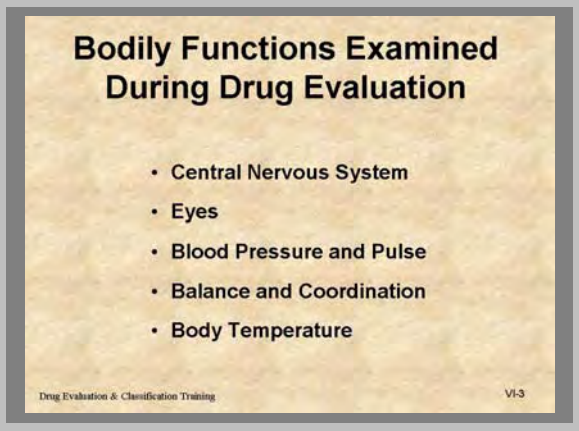
- Point out that it is not necessary to have detailed knowledge of specific functions or medical terminology. Students will not become medical specialists as a result of this limited overview, however, they should be encouraged to learn as much as possible about human physiology through additional instruction and independent reading.

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.

We will briefly review the chief functions of the body systems.

Session 6-3: Bodily Functions Examined During Drug Evaluation

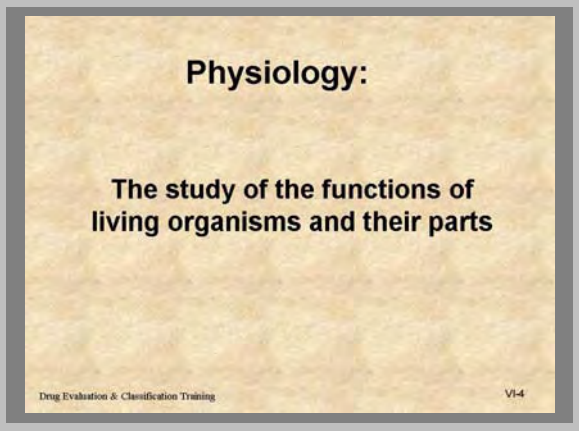


Primary focus will be on the systems or component parts of those systems that are examined during the drug evaluation.

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

B. Body Systems

Session 6-4: Physiology



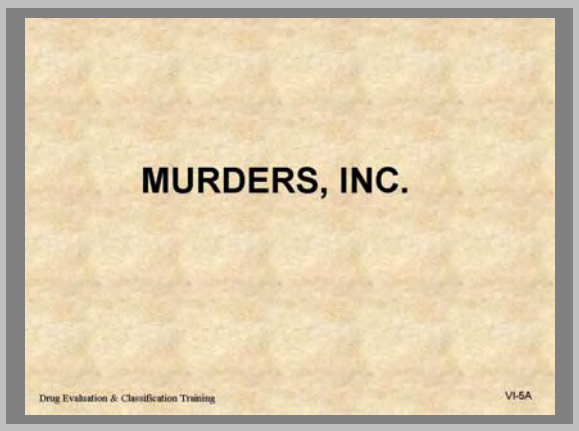
Physiology is the branch of biology that deals with the functions and activities of life or living matter and the physical and chemical phenomena involved.

For the purposes of this course, physiology is the study of the functions of living organisms and their parts.

- Source: Merriam-Webster's Medical Dictionary (2008).

Point out: For the purposes of this course, physiology is the study of the functions of living organisms and their parts.

Session 6-5A: Murders, Inc.

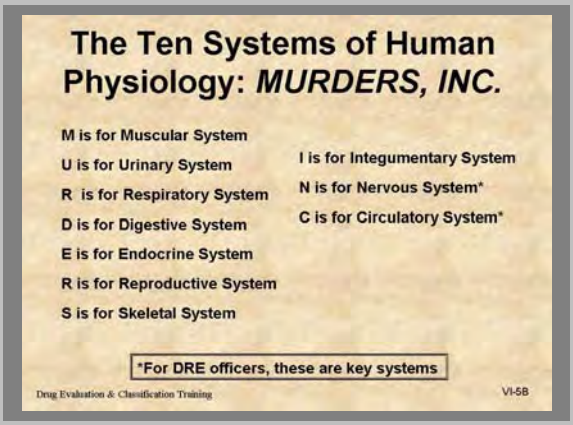


A convenient way of discussing human physiology is to list the ten major systems of the body.

- The phrase "MURDERS INC" helps us remember the names of the ten systems.

- Each letter stands for the name of one system.

Session 6-5B: The Ten Systems of Human Physiology



Muscular System

- M stands for the MUSCULAR SYSTEM
- Point out that we assess the muscular system in the drug influence evaluation when we test coordination and balance by administering divided attention tests, and when we check for muscle rigidity.

The body has three different kinds of muscles.

- The heart or cardiac muscle.
- Smooth muscles, which control the body's involuntary operations.
- 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 pupils, and all other things that we do not consciously control.
- All three types of muscles are examined at various stages of the drug influence evaluation.

Urinary System

- U is for the URINARY SYSTEM.
- 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.

- 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.

- Kidneys filter waste or harmful products, such as drugs and their metabolites, from the blood, and dump these waste products into the bladder.

Respiratory System

- The first R in "MURDERS INC" stands for the RESPIRATORY SYSTEM.

- Point out that some drugs cause the user to breath slowly and shallowly, while others cause rapid breathing.

- The major parts of the Respiratory System are the lungs and the diaphragm.

- The diaphragm is a smooth muscle that draws the air into the lungs and forces it out.

- 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 alcoholic beverages, marijuana, chemicals, etc. may be present on a suspect's breath.

Digestive System

- D stands for the DIGESTIVE SYSTEM.

- Major components of this system are the tongue, teeth, esophagus, stomach, intestines, liver, and pancreas.

- 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.

Endocrine System

- E is for the ENDOCRINE SYSTEM.

- 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.

- Hormones are complex chemicals that travel through the blood stream and that control or regulate certain body processes.

- Some drugs can mimic the effects of certain hormones, or can react with the hormones in ways that alter the hormones' effects.

Reproductive System

Print HORMONES on the dry erase board or flip-chart.

- The second R in "MURDERS INC" stands for the REPRODUCTIVE SYSTEM.

The functions of the reproductive system fall into two categories:

- self-producing (cytogenic), and

- 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.

Skeletal System

- S is for the SKELETAL SYSTEM.

- Consists of bones, cartilage and ligaments.

- The Skeletal System provides support to the body, permits movement, and forms blood cells.

Integumentary System

- The I in "INC" stands for the INTEGUMENTARY SYSTEM.

- Consists of the skin, hair, fingernails and toe nails, and accessory structures.

- Point out that DREs examine the skin for hypodermic injection sites, and for sweating, clamminess, and temperature.

- The chief functions of the Integumentary System include protection of the body, control of the body temperature, excretion of wastes (i.e. through sweat) and sensory perception.

Nervous System

- 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.

- This system consists of the brain, the brain stem, the spinal cord and the nerves.

- Nerves keep the brain informed of changes in the body's external and internal environments.

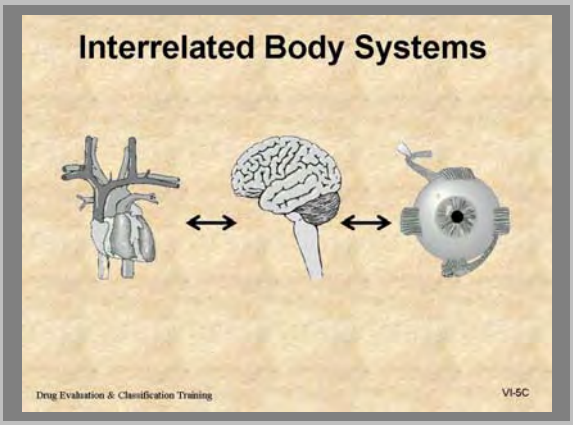
- CLARIFICATION: Nerves carry messages to the brain from the sense organs (eyes, ears, nose, etc, and also from pain sensors).

- 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.

- The nervous system controls, coordinates and integrates all physiological processes, so that normal body functions can be maintained.

Session 6-5C: Interrelated Body Systems

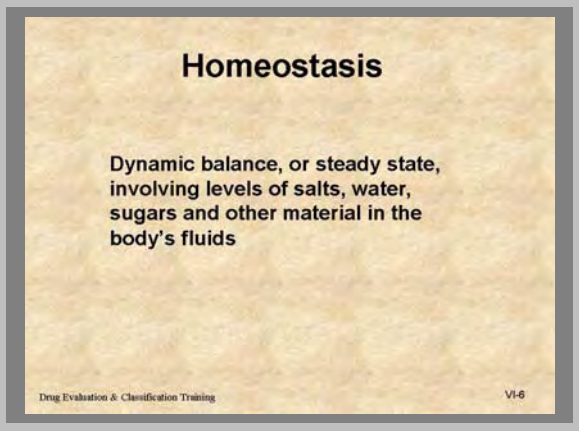


Circulatory System

- 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.
- 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.
- Blood is the body's primary transport mechanism: it carries food, water, oxygen, hormones, antibodies, etc. to the body's tissues and organs.
- Blood is also primarily responsible for carrying heat throughout the body.
- Blood is the main transport mechanism for bringing drugs to the brain.
- The heart, of course, pumps the blood and causes it to circulate throughout 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.

Session 6-6: Homeostasis



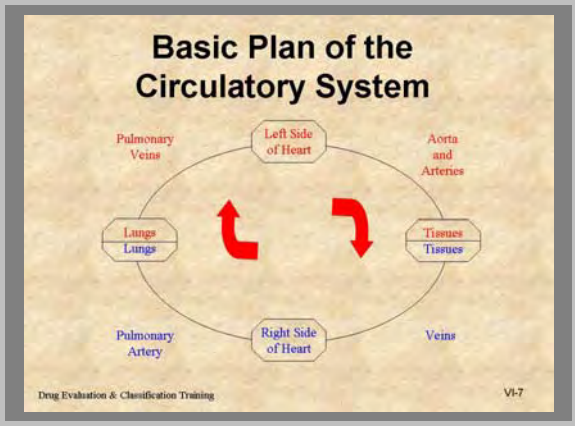
C. The Concept of Homeostasis

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

- Human body is exposed to a constantly changing external environment.
- Changes are neutralized by the internal environment – the blood.
- Oxygen, foods, water and other substances are constantly leaving bodily fluids to enter cells, while carbon dioxide and other wastes are leaving the cells to enter these fluids.
- Yet, the chemical composition of these fluids remains within very narrow limits.
- This phenomenon is called homeostasis.
- Point out that "homeo" means similar or the same elements and "stasis" means balance.
- Point out that the rhythm of the heart, breathing, constancy of body temperature, and the steady level of blood pressure under specific circumstances or conditions are all manifestations of homeostatic mechanisms at work within the body.
- Drugs interfere with the homeostatic mechanisms and produce signs and symptoms that can be recognized by a trained DRE.

D. A Simple View of the Heart and Circulatory System

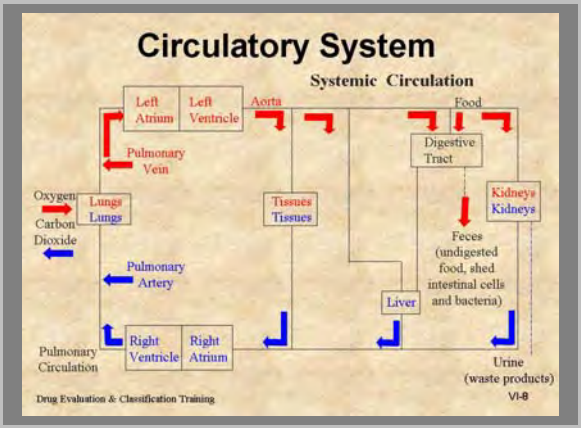
Session 6-7: Basic Plan of the Circulatory System



Heart and Circulatory System

- Circulation is a closed system, where blood is propelled by contractions of the heart.
- 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.
- 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.

Session 6-8: Circulatory System

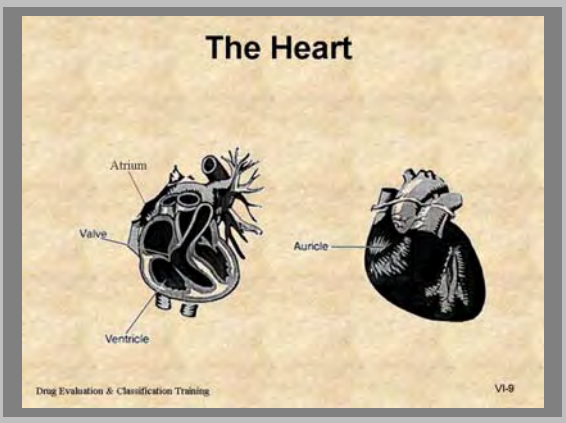


There are two separate circulation systems:

- Systemic system involves the whole body and is driven by the left side of the heart.

- Pulmonary system deals with the passage of blood through the lungs and is driven by the right side of the heart.

Session 6-9: The Heart



The heart is the pump and has two sides:

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.

- Left side pumps blood through the aorta and the arteries to the tissues.

- Blood, after passing through the tissues, returns via the veins to the right side.

- 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 right atrium and ventricle.

- NOTE: The pulmonary artery is the only artery that carries de-oxygenated 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 rich in oxygen; all other veins carry blood depleted of oxygen back to the heart.

The normal heart continues to beat regularly and continuously, with a rest interval never longer than a fraction of a second.

- 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 the 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.

- Pulse rate is the number of pulsations per minute.

- For the DEC program, the normal range is 60-90 pulsation beats per minute.

- Blood pressure (BP) is the force of the blood circulating in the arteries.

- Point out that some people may exhibit irregular (or arrhythmic) heart beats, i.e. where the interval between pulses varies.

- BP is categorized as systolic or diastolic BP.

Ask students to define “systolic” and “diastolic.”

- Systolic pressure is the maximum force that occurs during contraction.

- 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.

- 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.

Both systolic and diastolic pressures are measured and recorded as follows:

120 systolic
80 diastolic

The normal range of diastolic is 70 to 90.

Demonstrate proper method of recording on flip-chart or dry erase board.

Control Systems

The functions of the organs of the body are controlled in two ways:

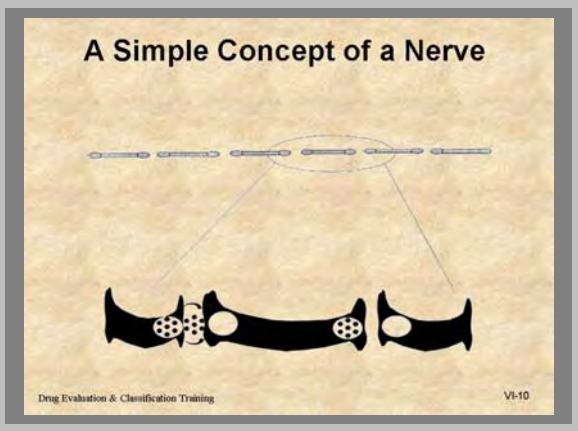
This is a function of the endocrine system.

Remind students that the hormones modify the activity of specific organs.

- One, by sending "chemical messengers" known as hormones via the blood stream from an endocrine gland where they are produced.

- Second, system of control is by means of the nervous system.

Session 6-10: A Simple Concept of a Nerve



E. Simplified Concept of the Nervous System

- Clarification: Nerves are often pictured as telephone or telegraph wires.

- The nerves that carry messages to and from the brain often are pictured as "wires" that carry electrical signals.

- 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.

- We can imagine messages running along the "wire segments" in much the same manner that electrical impulses run along telephone wires.

- 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.

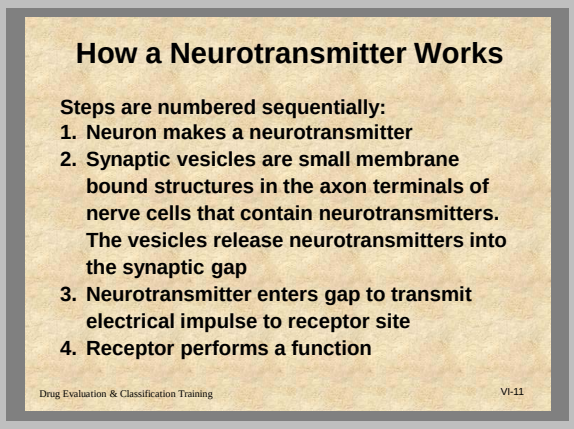
- When the chemical contacts the next wire segment, it generates an electrical impulse which runs along the wire until it reaches the next gap.

- 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.

Session 6-11: How a Neurotransmitter Works

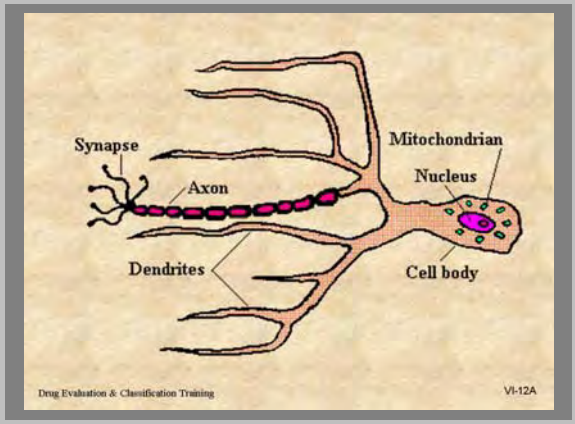


- In our simple model of nerves, each "wire segment" corresponds to a nerve cell, called a neuron.
- The chemical that flows across the gaps separating neurons is called a neurotransmitter.
    - Clarification: neurotransmitters are the body's chemical messengers.
- The body has a number of different neurotransmitters; each carries a different chemical message.

The sequence of how a neurotransmitter works:

- The neuron makes a neurotransmitter.
- Synaptic vesicles are small membrane bound structures in the axon terminals of nerve cells that contain neurotransmitters. These vesicles release neurotransmitters into the synaptic gap.
- The neurotransmitter enters the synaptic gap to transmit electrical impulse to the receptor site.
- The receptor performs a function

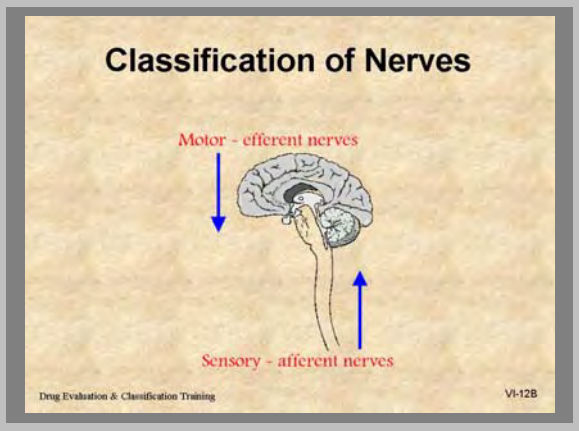
Session 6-12A: Nerve Diagram



- Each neuron, or "wire segment" has three main parts:
  - the cell body
  - the axon
  - the dendrite
- The axon is the part of the neuron that sends out the neurotransmitter, or chemical messenger.
- Point out that by using a baseball analogy, the Axon would be the "pitcher" of the neurotransmitter and the dendrite is the "catcher" of the neurotransmitter.
- The dendrite is the part that receives the neurotransmitter.
- The gap between two neurons is called a synapse, or synaptic gap.

Solicit students' questions about nerve cells (neurons).

Session 6-12B: Classification of Nerves



Classification of Nerves

Some nerves carry messages away from the brain, to the body's muscles and organs.

- These are called motor, or efferent nerves.
- The brain uses motor nerves to send commands to the heart to beat, the lungs to breathe, the muscles to contract or expand, and so forth.

Other nerves carry messages to the brain, i.e. from the eyes, ears and other senses, from the muscles, etc.

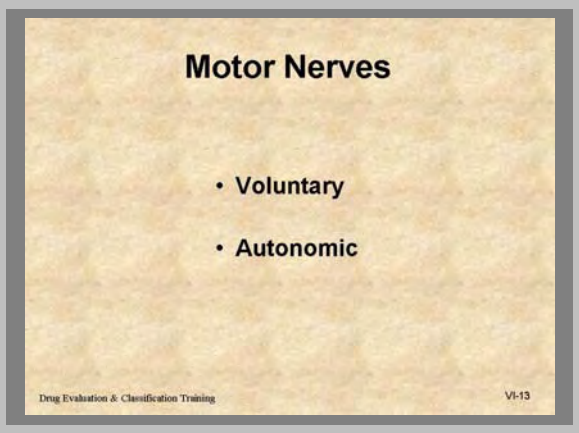
- These are called Sensory, or Afferent nerves.
- The brain decodes the messages that come along the sensory nerves to monitor the condition of the body and of the outside world.

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.

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.

Session 6-13: Motor Nerves



There are two sub-systems of motor nerves.

- The voluntary nerves send messages to the striated muscles that we consciously control.
- 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.

The Autonomic sub-system is divided into two groups.

Write "Sympathetic" at the end of one line, "Parasympathetic" at the end of the other.

- 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 and strengthen, blood vessels of the skin to constrict, the walls of the hollow viscera to relax (inhibiting digestion).
- 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.

- Certain neurotransmitters (i.e. chemical messengers) aid in the transmission of messages along sympathetic and parasympathetic nerves.

- 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.

- Drugs that mimic the neurotransmitter associated with sympathetic nerves are called sympathomimetic drugs.

- Sympathomimetic drugs artificially cause the transmission of messages that produce elevated blood pressure, dilated pupils, etc.

Write "Sympathomimetic" on the dry erase board or flip-chart.

Ask students to name a category of drugs that would be considered sympathomimetic.

- Examples: CNS Stimulants, Hallucinogens, and to some extent Dissociative Anesthetics and Cannabis.

- Drugs that mimic neurotransmitters associated with parasympathetic nerves are called parasympathomimetic drugs.

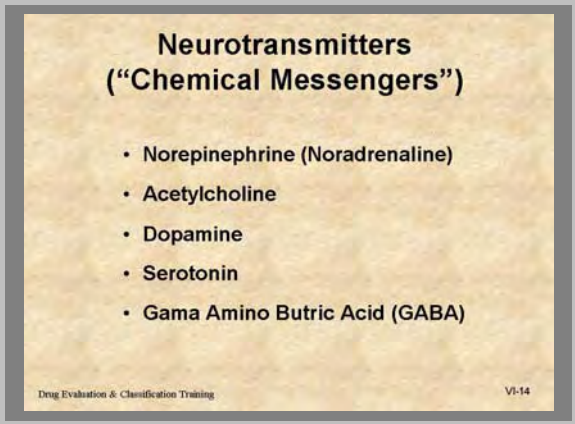
- Parasympathomimetic drugs artificially cause the transmission of messages that produce lowered blood pressure, drowsiness, etc.

Write "Parasympathomimetic" on the dry erase board or flip-chart.

Ask students to name a drug category that would be considered parasympathomimetic.

- Examples: Narcotic Analgesics and CNS Depressants.

Session 6-14: Neurotransmitters



Neurotransmitters

Although there are more than 100 chemicals in the brain, only about two dozen probably are true neurotransmitters.

Among the primary neurotransmitters that have been identified are:

Write these neurotransmitters on the dry erase board or flip-chart.

- Norepinephrine (also called Noradrenaline)
    - Point out that Norepinephrine is a neurotransmitter that produces effects on the body that are similar to the effects produced by Adrenaline (a hormone). Many neurotransmitters correspond to hormones that produce similar effects.
- Acetylcholine
    - Acetylcholine plays a role in muscle control, and affects neuromuscular or myoneural junctions.
- Dopamine
    - Dopamine plays a role in mood control and is used in treating Parkinson's Disease.
- Serotonin

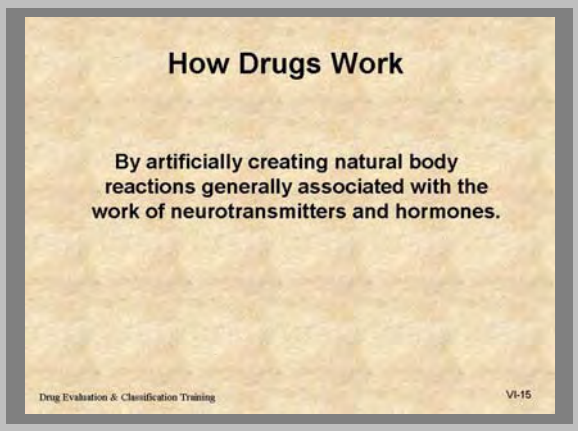
- Serotonin is a vasoconstrictor, thought to be involved in sleep, wakefulness, and sensory perception. Tryptophan is a precursor to serotonin, and has been used to treat insomnia.

- Gama Amino Butric Acid (Abbreviated GABA)
  - GABA inhibits various neurotransmitters and also causes a release of growth hormones.
- Endorphins and Enkephalins
  - These are the body's natural pain relievers.
- There are many drugs that artificially induce the effects of neurotransmitter and hormones.

Solicit students' questions and comments about nerves and neurotransmitter.

F. How Drugs Work

Session 6-15: How Drugs Work



In very simple terms, drugs work by artificially creating natural body reactions generally associated with the work of neurotransmitters and hormones.

Therapeutic doses of legitimate prescription 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?

- 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.

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.

- 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.

Example Number One

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.

Example Number Two

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.

- An interesting situation can occur when the drug is no longer psychoactive.

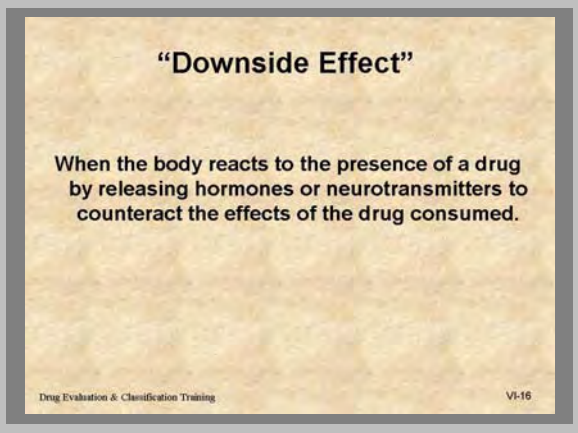
- The chemicals produced by the body in an effort to counteract the drug may still be active.

- 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.

- 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.

Downside

Session 6-16: "Downside Effect"



- It is not uncommon for a DRE to encounter someone on the "downside."
- Example: Ask students if they have ever experienced this situation…After drinking several drinks, they become drowsy, go to bed and fall asleep quickly. But, after a few hours, when it is still the middle of the night, they suddenly awaken and are wide awake, unable to fall asleep again. What has happened is that the alcohol has worn off, but the natural CNS Stimulants the body produced to counteract the alcohol are still around.
- We call this situation being on the "downside" of the drug.

Write "Downside" on the dry erase board or flip-chart.

- Example: with cocaine (a drug that is metabolized, or broken down by the body fairly quickly) the user may be exhibiting drowsiness and general depression by the time the DRE is called to the scene.

The concept of "downside" will be especially important to us when we discuss the effects of CNS Stimulants and drug combinations.

- Point out that persons on the "downside" can be dangerous when trying to operate a motor vehicle.
- Point out that two common examples of "downside" occur with Cocaine and Methamphetamine. Both drugs stimulate the body.

- Then the body attempts to "counteract" the stimulant effects. When the effects of the drug diminish, the results may mimic a CNS Depressant or a Narcotic Analgesic.

Solicit students' questions about Downside.

Negative Feedback

Session 6-17: "Negative Feedback"

Write "Negative Feedback" on the dry erase board or flip-chart.

Another interesting effect that drugs can produce is called Negative Feedback.

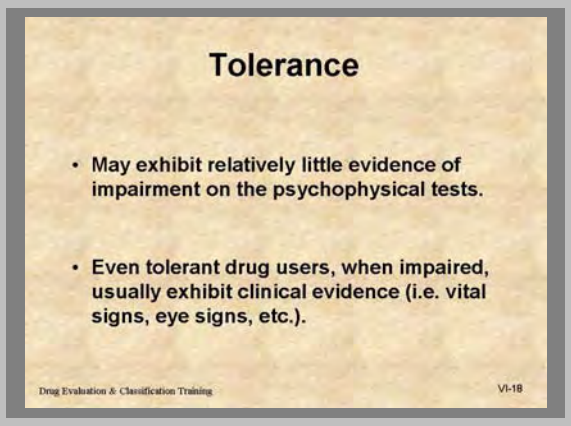
Write "The Body Quits Producing the Natural Chemicals" on the dry erase board or flip-chart.

- By taking the drug, the person artificially simulates the action of certain hormones and / or neurotransmitters.
- If the person continues to take the drug, the body may simply cease producing the natural chemicals that the drug simulates.
- In effect, the body comes to rely on the drug to supply itself with those chemicals.
- Example of Negative Feedback: when people regularly use heroin, cocaine, or marijuana, their bodies may cease producing the neurotransmitters and hormones known to be crucial for proper pain relief, stress reduction, mental stability and motivation.

- 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.

- One result of this may be increased tolerance to the drug: since the body isn't producing its own natural chemicals, it can more easily stand the drug.

Session 6-18: Tolerance



Write "Increased Tolerance" on the dry erase board or flip-chart.

- Emphasize: Habitual users of drugs may develop tolerance to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests.

- Even tolerant drug users, when impaired, usually exhibit clinical evidence (i.e., in the vital signs and eye signs – such as HGN).

Physical Dependence

Write "Physical Dependence" on the dry erase board or flip-chart.

Another result may be physical dependence, or addiction.

Pose this question to the class: Why do people take drugs? Solicit responses.

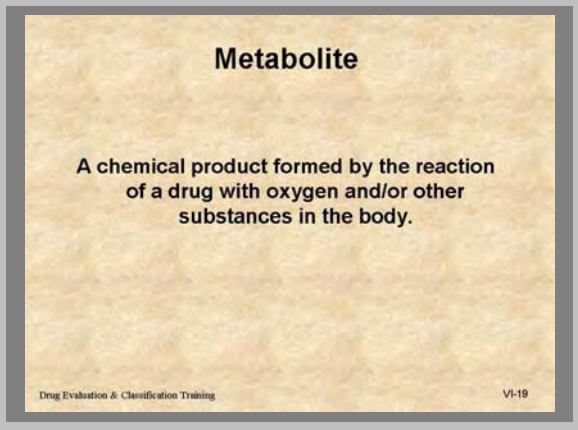
- In simplest terms, people take drugs because they like the feelings the drugs produce.
- The artificial simulation of the natural action of hormones and neurotransmitters appears to permit the user to create any feeling or mood he or she desires.

- As time goes on, and negative feedback develops, the user find that he or she can only achieve those feelings and moods if the drug is taken.

Instructor information: Metabolism is defined as the combined chemical and physical processes that take place in the body involving the distribution of nutrients and resulting in growth, energy production, the elimination of wastes, and other body functions. There are two basic phases of metabolism: anabolism, the constructive phase during which molecules resulting from the digestive process are built up into complex 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.

Metabolite

Session 6-19: Metabolite



One final concept is important for an understanding of how drugs work.

- A Metabolite is a product of metabolism which is the chemical changes that take place when the drug reacts with enzymes and other substances in the body.

Write "Metabolite" on the dry erase board or flip-chart.

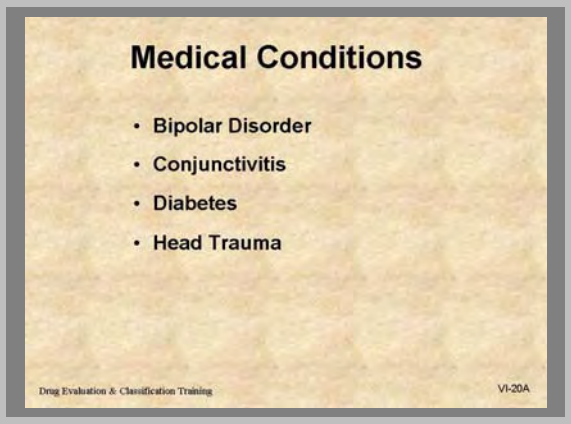
Instructor information: Metabolism is defined as the combined chemical and physical processes that take place in the body involving the distribution of nutrients and resulting in growth, energy production, the elimination of wastes, and other body functions. There are two basic phases of metabolism: anabolism, the constructive phase during which molecules resulting from the digestive process are built up into complex 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.

- The body uses chemical reactions to beak 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.
- Sometimes, metabolites of the original drug are themselves drugs, and cause impairment.
- 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.

G. Medical Conditions Which Sometimes Mimic Drug Impairment

Session 6-20A: Medical Conditions



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:

- Bipolar Disorder (Manic Depression) – a condition characterized by the alteration of manic and depressive states.

- Conjunctivitis – inflammation of the conjunctiva.

    - Conjunctivitis is a condition caused by infection, allergy, or irritation of the mucous membrane lining of the eyes, resulting in a "pink eye" appearance. A casual observer might mistake this for the bloodshot conditions associated with Cannabis or alcohol.

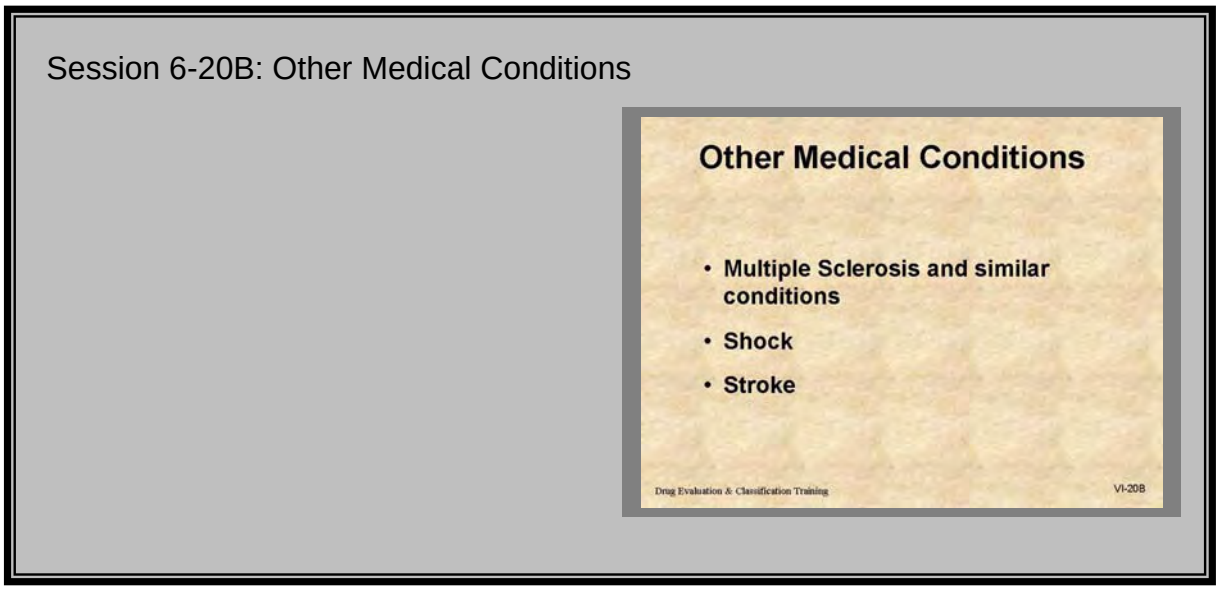
- Diabetes – a condition that can result in insulin shock (taking too much insulin) which may produce tremors, increased blood pressure, rapid respiration, lack of coordination, headache, confusion, and seizures.

    - The most common problem with diabetics arises when they take too much insulin, so that their blood sugar levels become extremely low. They may be very confused, sweat profusely, and exhibit increased pulse rate and increased blood pressure.

- 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.



- 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 face or extremities, weakness, double vision, etc.

- Shock – a sudden or violent disturbance in the mental or emotional faculties.
  - A shock victim may be dazed, uncoordinated, non-responsive.
  - Other indicators include: extremely low blood pressure, fast but weak pulse, dizziness, moist clammy skin, profuse sweating, rapid shallow breathing, blue lips and fingernails.

- Stroke – a medical condition caused by a rupture or obstruction (as if by 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.
  - Point out that there will be noticeably a difference in their physical appearance and actions such as drooling and slurred speech.

- 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 rate of respiration; surprise, fear and pain dilate the pupils markedly.

Normal conditions can affect vital signs:

- Exercise
- Excitement
- Fear
- Anxiety
- Depression
- Other

F. Summary

Briefly review main points of the lesson.

Basic understanding of how the body works is necessary to:

- Understand why the drug evaluation is conducted in a systematic manner.

- Understand why the results, when viewed in their totality, provide reliable indicators of impairment within broad categories of drugs.

- Emphasize that research in drug intoxication and the interaction with neurotransmitters is in its infancy.

- This limited overview will not qualify students as medical specialists.

- The knowledge gained during this session must be supplemented by additional reading and/or instruction.

- The body of knowledge in this area is being constantly expanded.

- Point out that the best response to questions regarding bodily functions 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 _____."

- 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.

- When drugs are introduced into the body this process comes into play.

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.

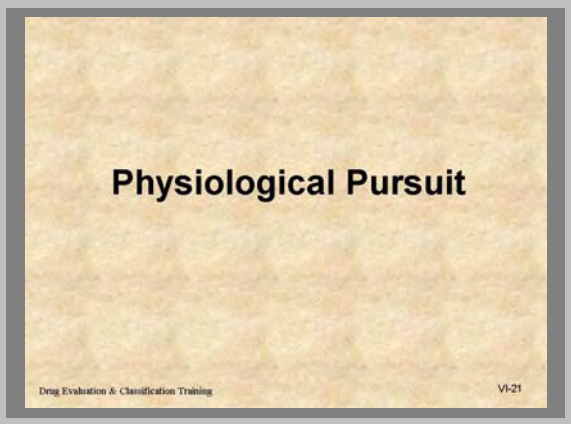
The effects of drugs can be detected and / or observed in the drug evaluation.

Drug Evaluations

Detailed instructions on procedures and expected results will be covered in following sessions.

Solicit and answer students' questions.

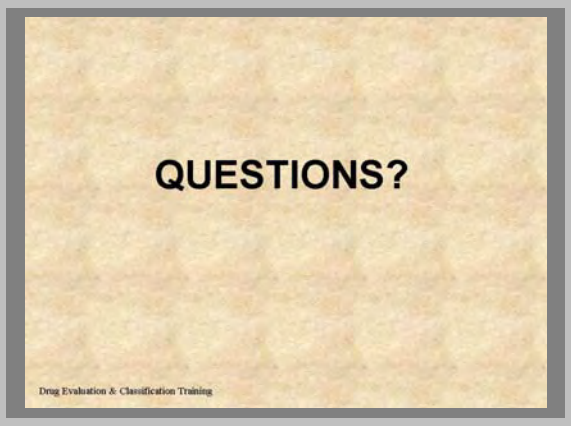
Session 6-21: Physiological Pursuit



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 6-22: Questions



INSTRUCTIONS FOR PHYSIOLOGICAL PURSUIT

1. Preparation and Rules of the Game

   a. Ahead of time, secure five like items as prizes (such as lottery scratch off tickets).

   b. Select two teams of five students each. Appoint a captain for each team. (Usually home team and visitors team. Attempt to balance teams and avoid "sharks".)

   c. Appoint a time keeper.

   d. Appoint a score keeper.

   e. Select a panel of instructor judges.

   f. On a flip-chart or dry erase board, mark as follows:

Questions	Score	
	Home	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. "No coaching from the audience."

e. The team with the most points after 14 questions wins. If the score is tied, use the last question to the break tie.

QUESTIONS FOR PHYSIOLOGICAL PURSUIT

1. Name the major body systems.

   Muscular, Urinary, Respiratory, Digestive, Endocrine, Reproductive, Skeletal, Integumentary, Nervous, and Circulatory.

2. What vein carries oxygenated blood?

   Pulmonary vein. The pulmonary vein returns oxygenated blood from the lungs to the left side of the heart. The left side of the heart then pumps the oxygenated blood via arteries throughout the body. The pulmonary artery carries de-oxygenated blood from the right side of the heart to the lungs.

3. What is the function of the endocrine system?

   The endocrine system is composed of ductless glands that release chemical messengers, called hormones, into the bloodstream. The function is the regulation of various bodily processes by the production and release of hormones.

4. Explain the "downside" effect of a drug.

   The "downside" effect of a drug refers to the post euphoric stage of a drug's effects. As the effects of a drug wear off, the individual may display effects that are essentially the opposite of the "high" state that was brought about by the drug. This effect is in part due to the body's attempt to counteract the effects of a drug.

5. Define homeostasis.

   Homeostasis is basically a physiological equilibrium or dynamic balance. Homeostasis refers to the body's mechanisms that keep the levels of fluids, salts, chemicals and other internal substances in a safe balance. The regulation of temperature is an example of homeostasis at work.

6. Hair and nails are part of what system?

   The Integumentary system. This system also includes the skin.

7. Name the two circulatory systems.

   The systemic circulatory system, which is driven by the left side of the heart, and pulmonary circulatory system, driven by the heart's right side.

8. The functions of the organs of the body are controlled by what two systems?

   The endocrine and nervous system.

9. Define synapse, axon, and dendrite.

   These structures are all part of the nerve cell, or neuron. The axon is the part of the neuron that releases neurotransmitter from a terminal into the synapse. An electrical impulse causes the axon to release the neurotransmitter. The synapse is the gap between nerve cells and is also called the synaptic gap. The dendrite refers to a structure that receives the chemical message from the neurotransmitter. There are often many dendrites on each neuron. The neurotransmitter fits into receptor sites on the dendrite and causes an electrical message to be sent to the neuron's body.

10. Define neurotransmitter and hormone.

    Both are chemical messengers. Neurotransmitters 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 neurons (nerve cell).

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 Sub-System?

   Sympathetic Nerves and Parasympathetic Nerves

6. Is Cocaine sympathomimetic or parasympathomimetic? What about Heroin?

   Cocaine is a sympathomimetic drug. Heroin is a parasympathomimetic drug.

7. Explain the concept of the "downside effect." Explain the concept of "Negative Feedback."

   Downside effect occurs when the body reacts to the presence of a drug by producing hormones or neurotransmitters to counteract the effects of the drug consumed.

Negative Feedback occurs when the brain becomes accustomed to the presence of drugs and stops producing the natural chemicals that correspond to the drug.

8. What do we call the nerves that carry messages away from the brain? What do we call the nerves that carry messages toward the brain?

   The nerves that carry messages away from the brain are called the Motor Nerves, or the Efferent Nerves.

The nerves that carry messages toward the brain are called the Sensory Nerves, or the Afferent Nerves.

2 Hours

SESSION VII

EXAMINATION OF VITAL SIGNS

SESSION VII EXAMINATION OF VITAL SIGNS

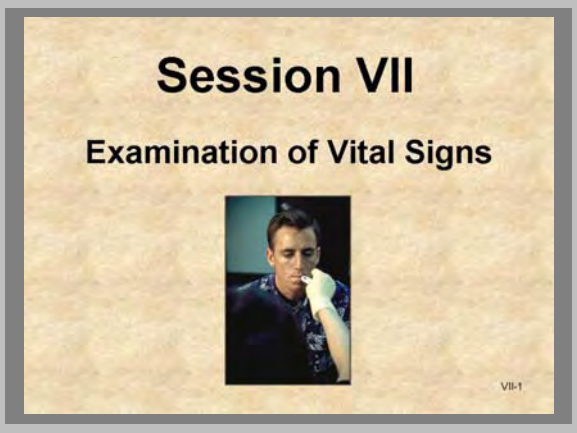
Upon successfully completing this session the student will be able to:

- 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.

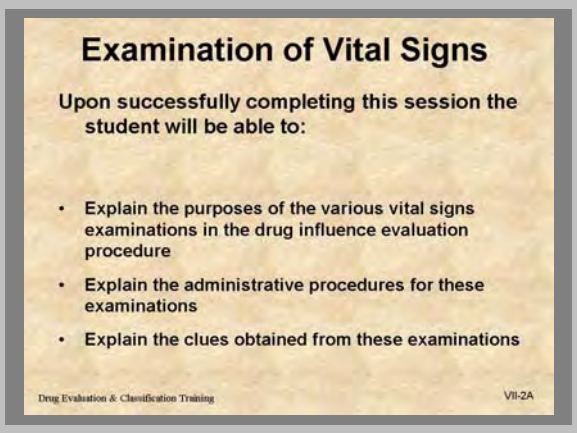
CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Purpose of the Examinations	▪ Instructor-Led Presentations
B. Procedures and Cues	▪ Instructor-Led Demonstrations
C. Demonstrations	▪ Audio Tape Presentation
D. Documentation Procedures	▪ Student-Led Demonstrations
E. Practice	▪ Students' Hands On Practice
	▪ Reading Assignments

I. EXAMINATION OF VITAL SIGNS

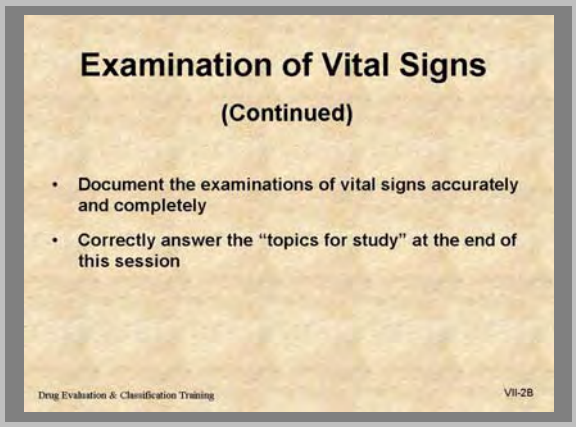
Session 7-1: Examination of Vital Signs



Session 7-2A: Examination of Vital Signs



Session 7-2B: Examination of Vital Signs (cont.)



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

A. Purposes of the Examinations

The vital signs that are relevant to the drug influence evaluation include:

Point out these vital signs on the wall chart.

- Pulse Rate
- Blood Pressure
- Temperature

Different types of drugs affect these vital signs in different ways.

- Certain drugs tend to "speed up" the body and elevate these vital signs.

Clarification:

- Pulse may quicken
- Blood pressure may rise
- Temperature may rise

Other drugs tend to "slow down" the body and lower these vital signs.

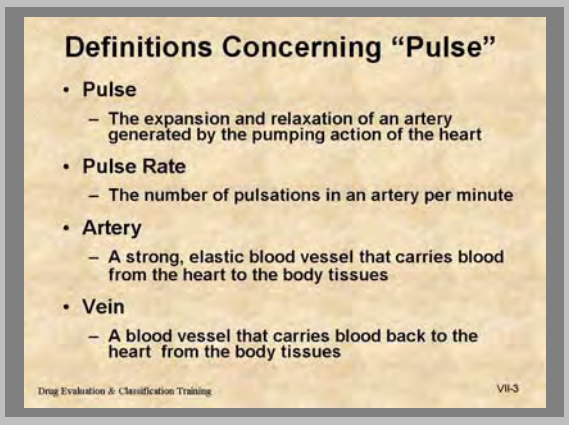
Clarification:

- Pulse may slow
- Blood pressure may drop

Systematic examination of the vital signs gives us much useful information concerning the possible presence or absence of various categories of drugs.

B. Procedures and Cues

Session 7-3: Definitions Concerning "Pulse"



Measurement of Pulse Rate

Pulse is the expansion and relaxation of an artery generated by the pumping action of the heart.

Pulse Rate is the number of pulsations in an artery per minute.

- Point out that pulse rate is equal to the number of contractions of the heart per minute.

An artery is a strong, elastic blood vessel that carries blood from the heart to the body tissues.

Instructor, for your information: technically speaking, pulse rate is not quite the same thing as heart beat rate. There are rare and very serious conditions that could cause the heart to beat so weakly that it is unable to force blood through some or all arteries. In that case, there might be no discernable pulse even though the heart is beating. But with a normal, healthy heart, pulse rate will equal heart beat rate.

A vein is a blood vessel that carries blood back to the heart from the body tissues.

When the heart contracts, it squeezes blood out of its chambers into the arteries.

The surging blood causes the arteries to expand.

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.

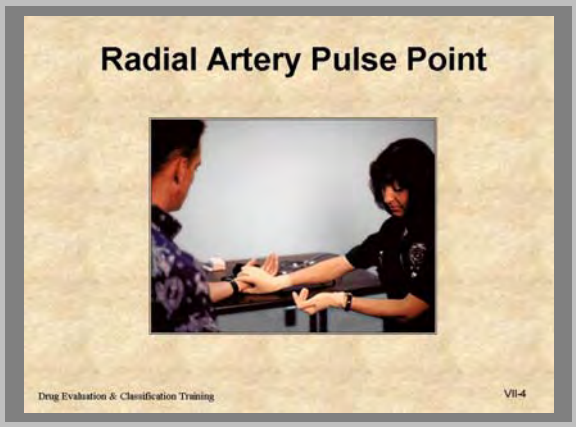
- Emphasize: the "surge" can be felt as the blood is squeezed from the heart through an artery. The pulse cannot be felt in a vein.

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.

Pulse is easy to measure, once you locate an artery close to the surface of the skin.

Session 7-4: Radial Artery Pulse Point



Radial Artery

One convenient pulse point involves the radial artery.

- 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.
- Hold your left hand out, with the palm up.

Demonstrate this.

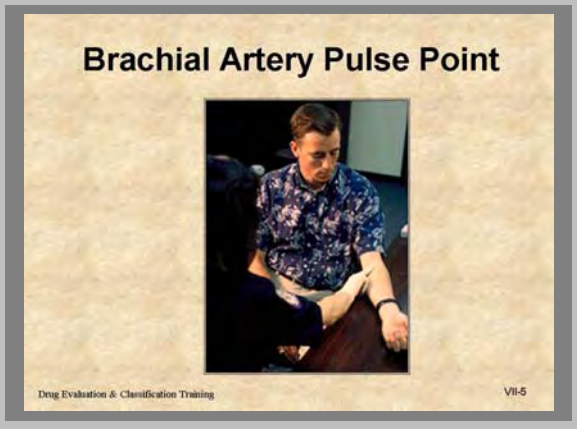
- Place the tips of your right hand's index finger and middle finger into the crease of your wrist, and exert a slight pressure.

Demonstrate this.

- 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.

Session 7-5: Brachial Artery Pulse Point



Brachial Artery

Another pulse point involves the brachial artery.

- 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.

- Hold your left hand out, with the palm up.

Demonstrate this.

- 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.

- 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.

Carotid Artery

Another pulse point involves the carotid artery.

- 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.

- Place the tips of your right hand's index and middle fingers alongside the right side of your Adam's apple.

Demonstrate this.

- 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.

Basic Do's and Don'ts of Measuring Pulse

Note, however, that there is wide variation in "normal" human pulse rate.

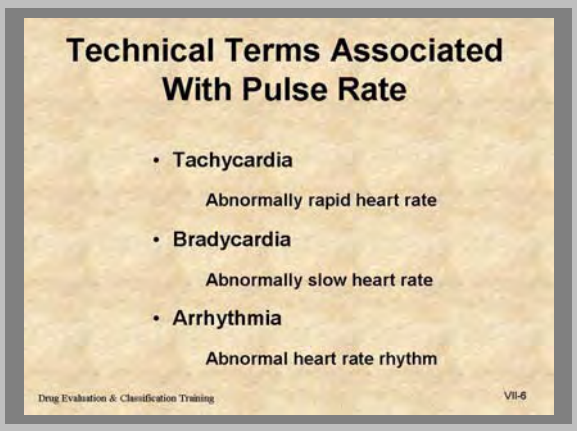
- Don't use your thumb to apply pressure while measuring a subject's pulse.

- 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 subject's.

- If you use the carotid artery pulse point, don't apply pressure to both sides of the Adam's apple: this can cut off the supply of blood to the brain.

- When measuring the pulse rate, use time intervals of 30 seconds.
- 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.

Session 7-6: Technical Terms Associated With Pulse Rate



Some Technical Terms Associated with Pulse Rate

- Tachycardia: abnormally rapid heart rate.
- Bradycardia: unusually slow heart rate.
- Arrhythmia: abnormal heart rhythm.

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___

- Point out that the "normal range" of pulse rate is 60 – 90 beats per minute.

TABULATE the numbers of students whose pulse rates were in each of the listed intervals.

Measurement of Blood Pressure

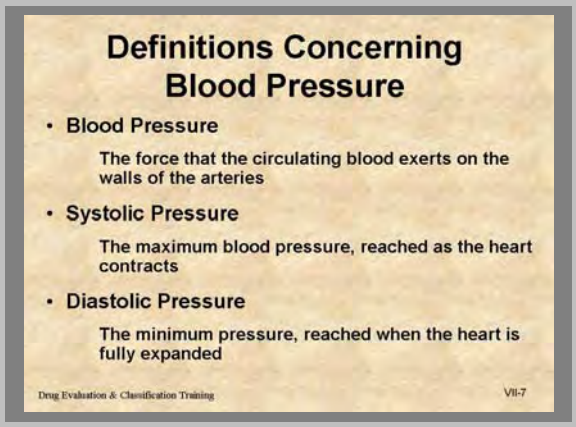
Blood Pressure is the force that the circulating blood exerts on the walls of the arteries.

- Blood pressure is measured in millimeters of mercury.
- 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.
- 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.

Session 7-7: Definitions Concerning Blood Pressure



- Blood Pressure changes constantly as the heart contacts and relaxes.
- Blood Pressure reaches its maximum as the heart contracts and sends the blood surging through the arteries. This is called the systolic pressure.
- Blood Pressure reaches its minimum when the heart is fully expanded. This is called the diastolic pressure.
- 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"

Sphygmomanometer

The device used for measuring blood pressure is called a sphygmomanometer.

The sphygmomanometer has a special cuff that can be wrapped around the subject's arm and inflated with air pressure.

Exhibit a sphygmomanometer.

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 the 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.
- 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.
- 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.

- 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).

- 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.
- Eventually, the pressure will drop enough so that blood will once again start to flow through the artery.

Ask students: "How far must the pressure in the cuff drop before the blood can start to squeeze through the artery?"

- Blood will start flowing in the artery once the pressure inside the artery equals the pressure outside the artery.

- The two pressures will become equal when the air pressure in the cuff drops down to the systolic pressure.

- When that happens, blood will spurt through the artery each time the heart contracts.

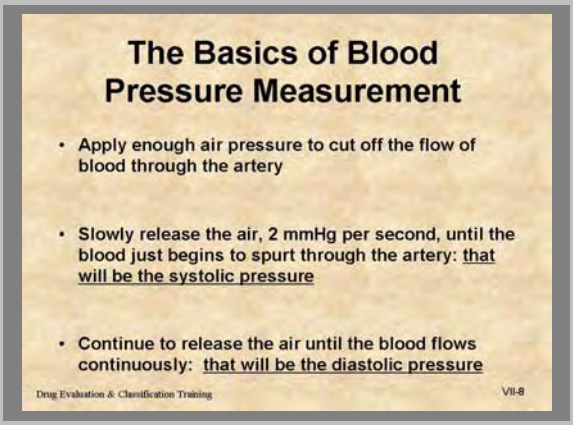
Ask students: "What would happen if we allowed the pressure in the cuff to drop down to the systolic level, and held the air pressure at that level?"

- Point out that the blood would spurt through the artery each time the heart contracted, but would cease flowing when the heart expanded.

- Once the air pressure in the cuff drops down to the diastolic level, the blood will flow continuously through the artery.

Ask students: "How far down must the air pressure in the cuff drop before the blood will flow through the artery continuously?"

Session 7-8: The Basics of Blood Pressure Measurement



Overview of Procedures for Measuring Blood Pressure

- 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).

- 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.

- Continue to release the air pressure until the blood flows continuously through the artery: that level will be the diastolic pressure.

Ask students:

- "How can we tell when the blood starts to spurt through the artery?"
- "How can we tell when the blood is flowing continuously through the artery?"
- We can listen to the spurting blood, using a stethoscope.

Exhibit a stethoscope.

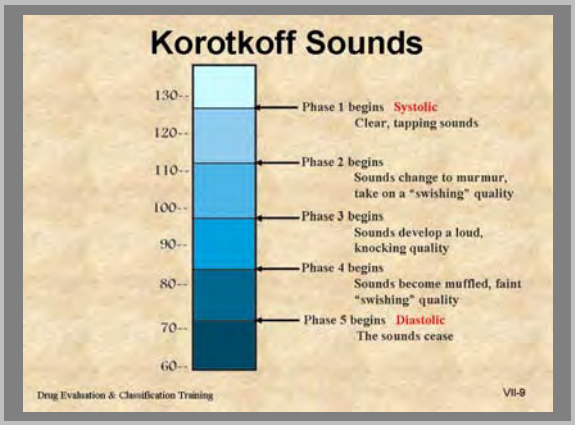
- Apply the stethoscope to the skin directly above the artery.

Demonstrate, using the student volunteer.

- Apply pressure to the cuff, enough to cut off the flow of blood.
- When no blood is flowing through the artery, we hear nothing through the stethoscope.
- Inflate the cuff on the student volunteer's arm.
- Slowly release the air from the cuff, letting the pressure start to drop.
- Release the air in the cuff.
- When we drop to the systolic pressure, we start to hear a spurting sound.
    - Note: this begins as a clear, tapping sound.
- As we continue to allow the air pressure to drop, the surges of blood become steadily longer.
    - Note: the sounds take on a swishing quality, and become fainter.
- When we drop to the diastolic pressure, the blood flows steadily and all sounds cease.

Excuse the student volunteer and thank them for participating.

Session 7-9: Korotkoff Sounds



Korotkoff Sounds

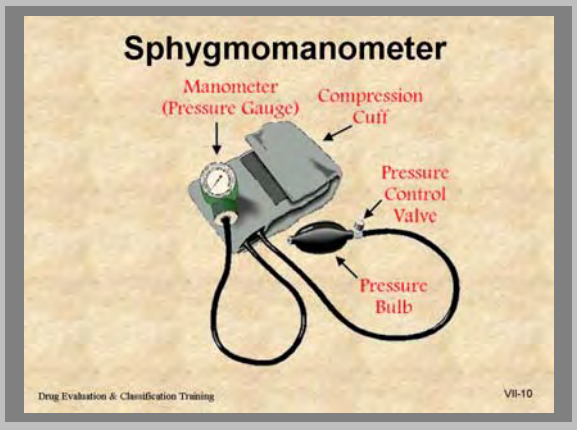
The sounds that we listen to are called Korotkoff Sounds. They are divided into 5 phases:

Note: Slide VII-9A contains a sound clip of the Korotkoff sounds.

- Phase 1 – the first appearance of clear, tapping sounds that gradually increase in intensity.
    - Point out that the beginning of Phase 1 corresponds to the systolic pressure.
- Phase 2 – the sounds change to a murmur and take on a swishing quality.
- Phase 3 – the sounds develop a loud, knocking quality (not quite as clear as the Phase 1 sounds).
- Phase 4 – the sounds become muffled and again have a faint swishing quality.
- Phase 5 – the sounds cease.
    - Point out that the beginning of Phase 5 corresponds to the diastolic pressure.

Session 7-9A: Korotkoff Sounds

Session 7-10: Sphygmomanometer



Familiarization with the Sphygmomanometer

- Hand out stethoscopes and sphygmomanometers (one per each student is desirable. At minimum, there should be one for every four students).

The compression cuff contains an inflatable rubber bladder.

- Point out the components of the sphygmomanometer on the visual.
- Point out that blood pressure cuffs come in three sizes: child, adult, and extra large, depending on the size of the bladder.

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.

Another tube connects the bladder to the pressure bulb, which can be squeezed to inflate the bladder.

The pressure control valve permits inflation of the bladder and regulates the rate at which the bladder is deflated.

To inflate the bladder, the pressure control valve must be twisted all the way to the right.

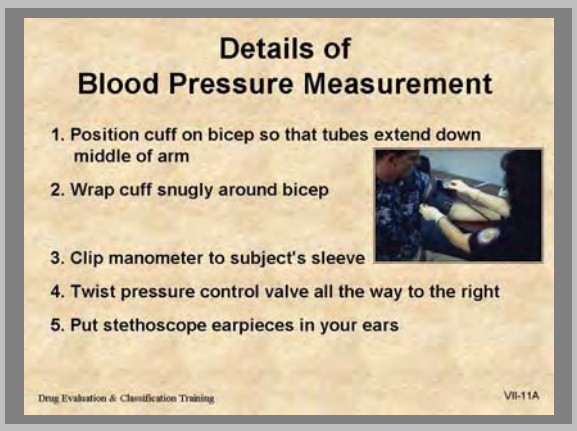
Demonstrate this.

When the valve is twisted all the way to the right, air can be pumped into the bladder, but no air can escape from the bladder.

To deflate the bladder, twist the valve to the left.

The more the valve is twisted to the left, the faster the bladder will deflate.

Session 7-11A: Details of Blood Pressure Measurement



Details of Blood Pressure Measurement

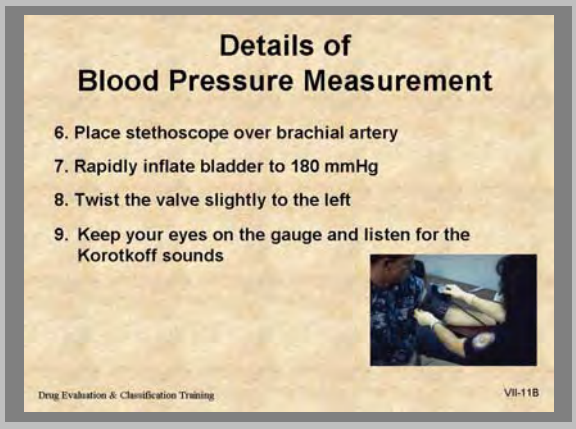
Select a student to serve as a blood pressure subject. Demonstrate the procedures using the student.

- 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: the Korotkoff sounds louder.

- The manometer (pressure gauge) may be clipped on the subject's sleeve, so that it is readily viewable.

- Twist the pressure control valve all the way to the right.

Session 7-11B: Details of Blood Pressure Measurement (cont.)



- Put the stethoscope earpieces in your ears.

- Make sure the earpieces are turned forward, i.e. toward the nose.

- Place the diaphragm or bell of the stethoscope over the brachial artery.

- 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.

- 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.

- 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.

Point out that "normal" values of blood pressure are:

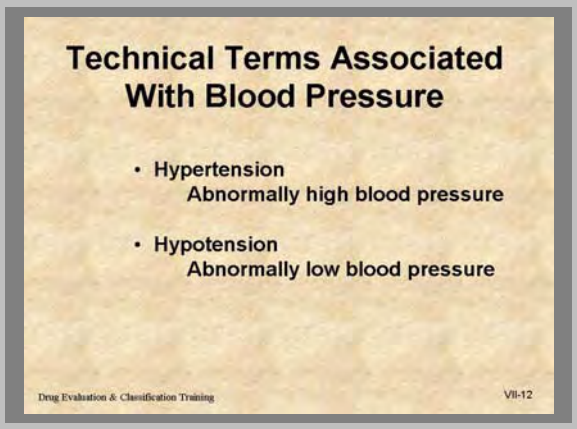
Systolic: 120 – 140
Diastolic: 70 – 90

- Note, however, that "normal" people can have significantly different blood pressures: there is wide variation in human blood pressure.

Do's and Don'ts of Blood Pressure Measurement

- If you inflate the bladder and then need to repeat the measurement, wait at least three minutes to allow the subject's artery's to return to normal.

Session 7-12: Technical Terms associated With Blood Pressure



Some Technical Terms Associated with Blood Pressure

- Hypertension: abnormally high blood pressure.

- Hypotension: abnormally low blood pressure.

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. Monitor, coach and critique the students' practice.

Allow this practice to continue for only about 10 minutes.

- Remind students that when they measure and record blood pressure it is not necessary to use the symbols "mmHg." Simply record the numbers.

Measurement of Temperature

- 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.
- 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

Pulse Rate Measurement

Select two students to come before the class.

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).

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.

Blood Pressure Measurement

Select two other students to come before the class.

- Instruct the first student to measure the second student's blood pressure.

- Have the students reverse roles.

Excuse the two students and thank them for participating.

D. Documentation Procedures

Review the sections of the Standardized Form used to record vital signs measurements.

E. Practice

- Instruct students to practice in teams of 2 – 4 members, taking in turns measuring each other's vital signs.

- Monitor, coach and critique the students' practice.

Session 7-13: Questions

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

1 Hour and 45 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:

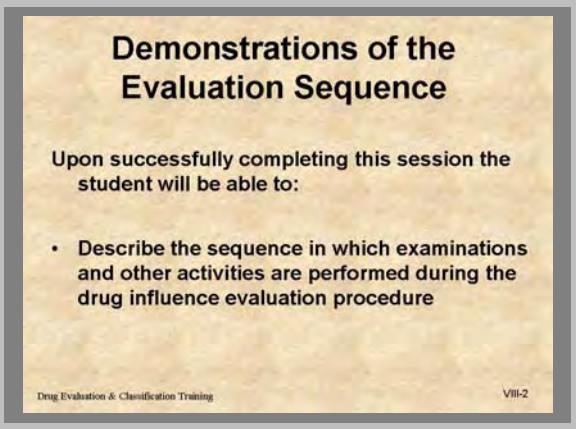
- Describe the sequence in which examinations and other activities are performed during the drug influence evaluation procedure.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Live Demonstrations	▪ Instructor Led Presentations
B. Video Demonstrations	▪ Instructor Led Demonstrations
	▪ Video Presentations
	▪ Reading Assignments

I. DEMONSTRATIONS OF THE EVALUATION SEQUENCE

Session 8-1: Demonstrations of the Evaluation Sequence

Session 8-2: Demonstrations of the Evaluation Sequence



Briefly review the objectives, 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.

- Instructors should conduct at least two complete demonstrations of the evaluation sequence, articulating each step in the process.

- Instruct students to follow along with copies of the report form.

- Hand-out a 12-Step checklist to the students if needed.

Preliminary Examinations

Select a student or one of the volunteer drinkers for Session XII (prior to drinking) to serve as the "subject" for the preliminary examination.

Preliminary eye checks:

- equal tracking
- equal pupil size
- resting nystagmus
- blindness
- eyelids
- initial check for nystagmus

Ask each question, exactly as it should be asked during an actual preliminary examination.

Explain the kinds of clues and evidence that may be gleaned during the preliminary examination.

Ensure that the student examiner checks:

- The student subject's eyes for tracking, equal pupil size, resting nystagmus, and eyelid condition.

- The student subject's pulse.

Solicit students' comments or questions about the preliminary examination.

Excuse the student subject and thank him/her for participating in the demonstration.

Eye Examinations

Select another student or a volunteer drinker to serve as the "subject" for the eye examinations, which will include:

- Horizontal Gaze Nystagmus
- Vertical Gaze Nystagmus
- Lack of Convergence

Conduct a complete demonstration of an eye examination.

Explain the kinds of clues and other evidence that may be seen during the eye examinations.

Solicit students' comments or questions about the eye examinations.

Excuse the student and thank him or her for participating in the demonstration.

Psychophysical Tests

Select another student or a volunteer drinker to serve as the "subject" for the psychophysical tests, which include:

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

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.

Vital Signs Examinations

Select another student to serve as the "subject" for the vital signs examinations, which include:

- Blood Pressure
- Temperature
- Second Check of Pulse

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.

Solicit students' comments or questions about the vital signs examinations.

Excuse the student subject, and thank them for participating in the demonstration.

Dark Room Examinations

Select another student to serve as the "subject" for the dark room examination.

Pupil Size Estimations:

- room light
- darkness
- direct light

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.

Conduct a complete set of "darkroom" examinations on the student subject.

Explain the kinds of clues and other evidence that may be gleaned during the dark room examinations.

- Reaction to Light

Point out that the checks of the oral and nasal cavities actually are part of the examination for signs of ingestion.

- Check of Nasal Area
- Check of Oral Cavity

Solicit students' comments or questions about the dark room examinations.

Excuse the student subject and thank them for participating in the demonstration.

Examination for Muscle Tone and Injection Sites and 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 on the student subject.

Solicit students' comments or questions about this portion of the examination.

Excuse the student subject, and thank them for participating in the demonstration.

Final Interview

Explain the kinds of clues and other evidence that may be gleaned during the final interview.

- Statements made by subject
- Behavior during entire evaluation

Give examples of typical statements or behaviors of drug impaired subjects.

Solicit students' comments or questions about the final interview.

Opinions of Evaluator

Point out that students subsequently will learn the clues and indicators of the various categories of drugs.

Session 8-3: Questions

Solicit students' comments and questions concerning the entire drug influence evaluation procedure.

- Be sure to conduct at least two complete, live demonstrations of the drug influence evaluation procedure.

B. Review of the 12-Step Process

Show the video of the 12-Step Process as the review.

1 Hour and 45 Minutes

SESSION IX

CENTRAL NERVOUS SYSTEM DEPRESSANTS

SESSION IX CENTRAL NERVOUS SYSTEM DEPRESSANTS

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

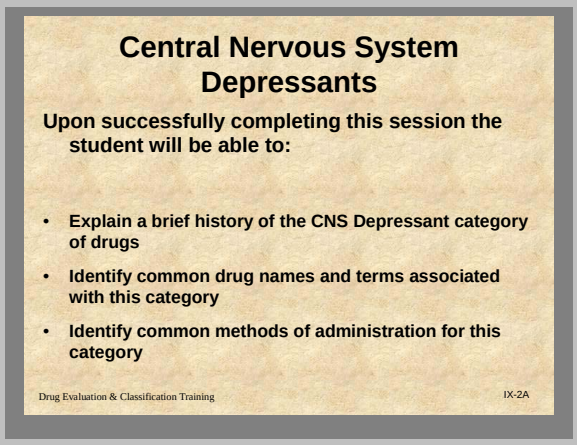
- Explain a brief history of the CNS Depressant category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Explain 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	▪ Instructor-Led Presentations
B. Possible Effects	▪ Instructor Led Demonstrations Classification Exemplars
C. Onset and Duration of Effects	▪ Reading Assignments
D. Overdose Signs and Symptoms	▪ Video Presentations
E. Expected Results of the Evaluation	▪ Slide Presentations

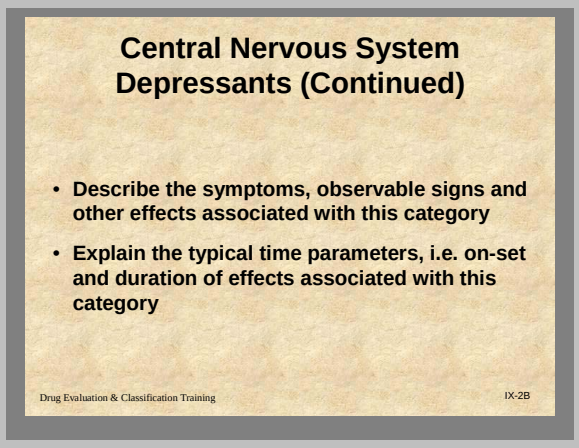
I. CENTRAL NERVOUS SYSTEM DEPRESSANTS

Session 9-1: Central Nervous System Depressants

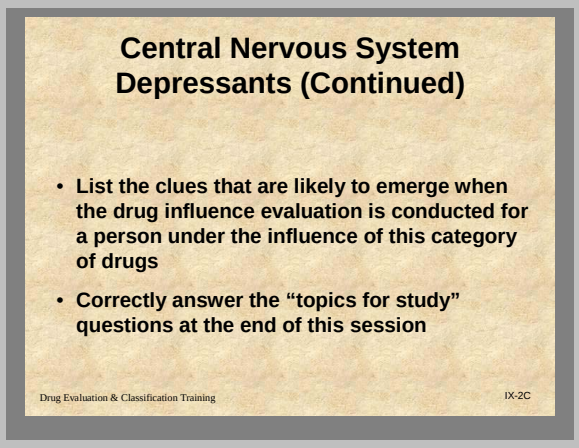
Session 9-2A: Central Nervous System Depressants (continued)



Session 9-2B: Central Nervous System Depressants (continued)



Session 9-2C: Central Nervous System Depressants (continued)



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

A. Overview of the Category

CNS Depressants

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."

- 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.
- As the dose is increased, depressants begin to affect the parts of the brain that control the body's automatic processes.
    - Heartbeat
    - Respiration
    - Etc.

Session 9-3: Alcohol – The Most Familiar CNS Depressant

The CNS Depressant category includes the single most commonly abused drug in America.

Ask this question: "What is the single most commonly abused drug?"

- Alcohol has been used and abused since prehistoric times.
- Alcohol and its effects are familiar to most people.
- 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 the session will focus on the non-alcohol CNS depressants.

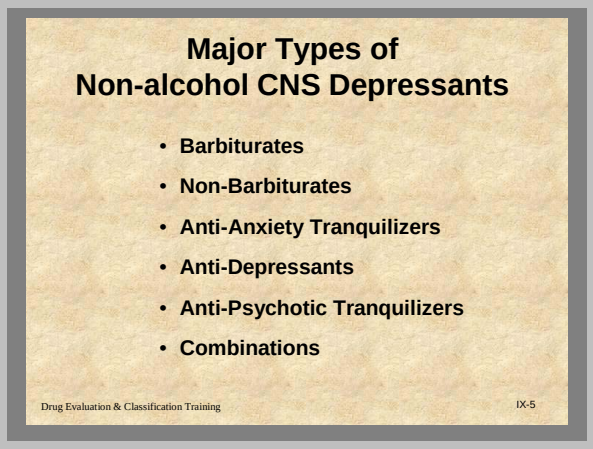
Session 9-4: Chloral Hydrate (“Mickey Finn”)

Chloral Hydrate

Non-alcohol CNS Depressants have been around for more than 150 years.

- The first non-alcohol CNS Depressant was Chloral Hydrate.
- It was developed in 1832
- Chloral Hydrate was derived from alcohol.
- It is commonly referred to as “Mickey Finn” or “Knockout drops” because its fast acting effects.
- Chloral Hydrate is still produced and prescribed today. It is a sedative used in the short term treatment of insomnia and to relieve anxiety and induce sleep before surgery.
- “Felsule” and “Noctec” are two registered brand names of Chloral Hydrate.

Session 9-5: Major Types of Non-alcohol CNS Depressants



Subcategories of CNS Depressants

There are six major subcategories of CNS Depressants other than alcohol.

Barbiturates

- More than 250 different barbiturates have been produced; of these, about 50 have been accepted for medical use.
- Derivatives of Barbituric Acid.
- First produced in 1864.
- Very common in use and abuse today.

Non-Barbiturates

- Note: Chloral Hydrate belongs to the non-barbiturate subcategory.
- Synthetic compounds with a variety of chemical structures.
- Avoid some of the undesirable side effects of barbiturates.
    - i.e. sleepiness or drowsiness
- Still produce physical and psychological dependence.

Anti-Anxiety Tranquilizers

The Anti-Anxiety Tranquilizers are also known as the "minor tranquilizers." They include the group of drugs known as the "Benzodiazepines" examples of which are Valium, Xanax, and Librium.

- First produced in 1950.
- In very wide spread use.
- Frequently abused.

Anti-Depressants

- Point out that it is not a contradiction to call one subcategory of CNS Depressants the Anti-Depressants. It is psychological depression that they are "anti.".
- Sometimes called the "mood elevators."
- Point out that many anti-depressants may cause CNS Stimulant effects.
- Point out that Anti-Depressants can produce side effects which may mimic many of the signs associated with CNS Stimulants.

Anti-Psychotic Tranquilizers

- Point out that the Anti-Psychotic Tranquilizers are generally more powerful than the Anti-Anxiety Tranquilizers.
- Sometimes called the "major tranquilizers."
- 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.
- The most familiar Anti-Psychotic Tranquilizer is "Thorazine."

Combinations of the other five subcategories

- Examples of specific common CNS Depressants.
- Note: Briefly review these examples.

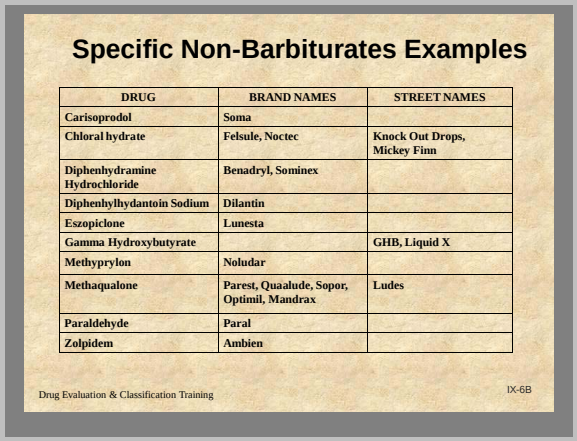
- Emphasize that students are not expected to memorize the names of these various CNS Depressants. But, if they see the names, they should be able to recognize them as depressants.

Session 9-6A: Specific Barbiturates Examples

The Barbiturates

- Amobarbital (Trade name "Amytal") Street names "blues"; "blue heavens."
- Amosecobarbital (Trade name "Tuinal") Street names "rainbows"; "Christmas Trees"
  - NOTE: This is a combination of Amobarbital and Secobarbital.
- Pentobarbital (Trade name "Nembutal") Street names "yellows"; "yellow jackets"
  - According to the "Physician's Guide to Psychoactive Drugs." 1 ounce of 80 proof alcohol is equivalent to about 15 milligrams of Phenobarbital.
- Phenobarbital (Many trade names) Street name "pink ladies"
- Secobarbital (Trade name "Seconal") Street names "reds"; "red devils"; "RDs"; "fender benders"; F-40s"

Session 9-6B: Specific Non-Barbiturate Examples



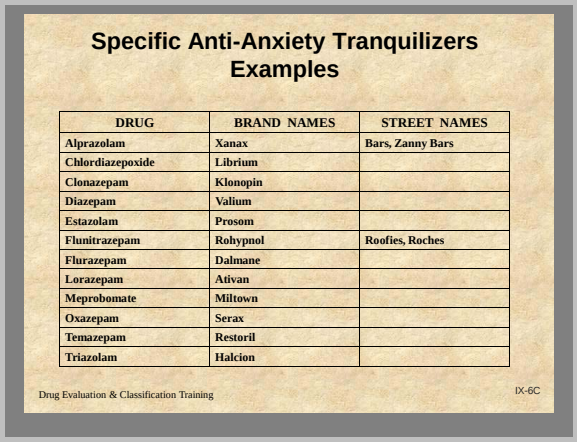
If available, display slides of these various drugs.

The Non-Barbiturates

- Point out that primary medical use for the Non-Barbiturate is the treatment of insomnia.
- Note: The absence of street names implies only that illicitly manufactured versions of these drugs are not common. The legally manufactured versions are abused, however.
- Carisoprodol (Trade name "Soma")
- Chloral Hydrate (Trade names "Felsule"; "Noctec") (Street names "Knockout drops"; "Mickey Finn")
- Diphenhydramine Hydrochloride (Trade names "Benadryl"; "Sominex"; "Dramamine" and Phenytoin)
- Diphenylhydantoin Sodium (Trade name "Dilantin")
- Eszopiclone (Trade name "Lunesta")
- Ethchlorvynol (Trade name "Placidyl")
- Gamma Hydroxybutyrate (Street name "GHB"; "GBL"; "Liquid X"; "1,4-butanediol")
- Gamma Hydroxybutyric Acid (GHB)

- Methaqualone (Trade names “Parest”; “Quaalude”; “Sopor”; “Optimil”; “Mandrax”) (Street name “ludes”)
    - Note: Methaqualone continues to be pharmaceutically manufactured in Mexico, trade name “Mandrax.
- Paraldehyde (Trade name “Paral”)
- Zolpidem (Trade names “Ambien”)

Session 9-6C: Specific Anti-Anxiety Tranquilizers Examples



If available, display slides of these various drugs.

The Anti-Anxiety Tranquilizers

- Alprazolam (Trade name “Xanax”)
- Chlordiazepoxide (Trade name “Librium”)
- Clonazepam (Trade name “Klonopin”)
- Diazepam (Trade name “Valium”)
- Estazolam (Trade name “ProSom”)
- Flunitrazepam (Trade name “Rohypnol”) (Street name “Roofies”; “Roches”)
- Flurazepam (Trade name “Dalmane”)
- Lorazepam (Trade name “Ativan”)

- Meprobamate (Trade name “Miltown”; “Probate”)
- Oxazepam (Trade name “Serax”)
- Temazepam (Trade name “Restoril”)
- Triazolam (Trade name “Halcion”)

Session 9-6D: Specific Anti-Depressants Examples

If available, display slides of these various drugs.

The Anti-Depressants

- Amitriptyline Hydrochloride (Trade names “Elavil”; “Endep”)
- Bupropion (Trade name “Wellbutrin”)
- Citalopram (Trade name “Celexa”)
- Desipramine Hydrocholoride (Trade names “Norpramin”; “Pertofrane”)
- Doxepin Hydrochloride (Trade names “Adapin”; “Sinequan”)
- Duloxetine (Trade name “Cymbalta”)
- Escitalopram (Trade name “Lexapro”)
- Fluoxetine (Trade names “Prozac”; “Sarafem”)
- Fluvoxamine (Trade name “Luvox”)

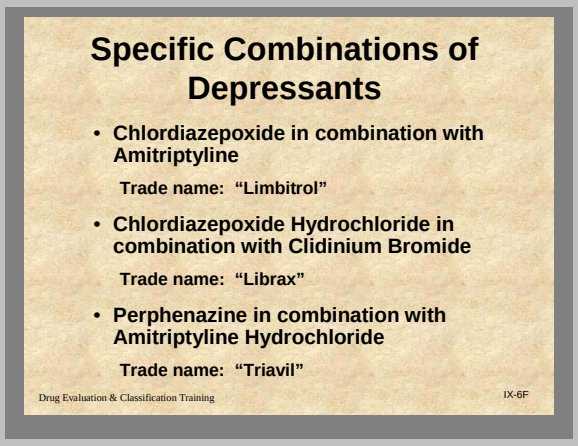
- Imipramine (Trade name “Tofranil”)
- Paroxetine (Trade name “Paxil”)
- Phenelzine Sulfate (Trade name “Nardil”)
- Sertraline (Trade name “Zoloft”)
- Trazodone (Trade name “Desyrel”)
- Venlafaxine (Trade name “Effexor”)

Session 9-6E: Specific Anti-Psychotic Tranquilizers Examples

The Anti-Psychotic Tranquilizers

- Chlorpromazine (Trade name “Thorazine”)
- Droperidol (Trade name “Inapsine”)
- Haloperidol (Trade name “Haldol”)
- Lithium Carbonate (Trade name “Lithane”)
- Lithium Citrate

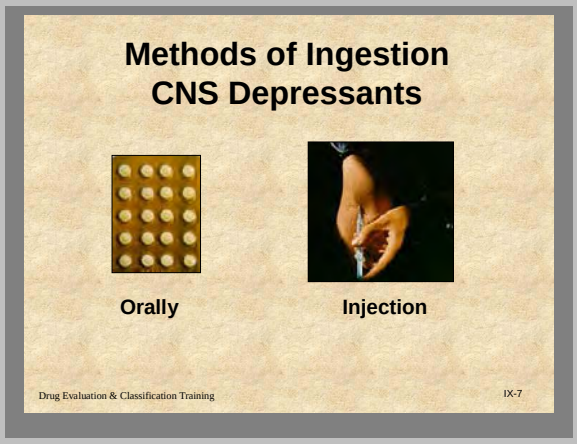
Session 9-6F: Specific Combinations of Depressants



The Combinations

- Chlordiazepoxide in combination with Amitriptyline (trade name "Limbitrol")
  - "Limbitrol" is a combination of an anti-anxiety tranquilizer and an anti-depressant.
- 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.
- Perphenazine in combination with Amitriptyline Hydrochloride (Trade name "Triavil" and "Etrafon")
- Point out that "Triavil" is a combination of an anti-psychotic tranquilizer and an anti-depressant.

Session 9-7: Methods of Ingestion CNS Depressants



Methods of ingestion of CNS Depressants

- Most common and easiest method is orally.
- Some abusers prefer to use intravenous injection for Barbiturates.
- Some abusers experience a "flash" or "rush" from intravenous injection of Barbiturates, that they do not experience from oral ingestion.
- The injection paraphernalia used for Barbiturates are very similar to those used for Heroin.

Examples:

- Spoon, for heating and dissolving the barbiturate
- Cotton, for filtering the solution when drawing it into the needle.
- Hypodermic syringe
- Tourniquet

However, the Barbiturate abuser will use a larger hypodermic needle because the barbiturate solution is thicker than the heroin solution.

- 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.

The injection sites on the skin of a Barbiturate abuser appear quite different from those of an Heroin addict.

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.

Necrosis may occur: i.e. a decaying of the body's tissue at the injection site.

If available, display a slide showing ulcerated injection sites.

The dead tissue may begin to separate from the living tissue, producing ulcerations.

- Point out that these ulcerations resemble burns placed on the skin by the tip of a cigarette.

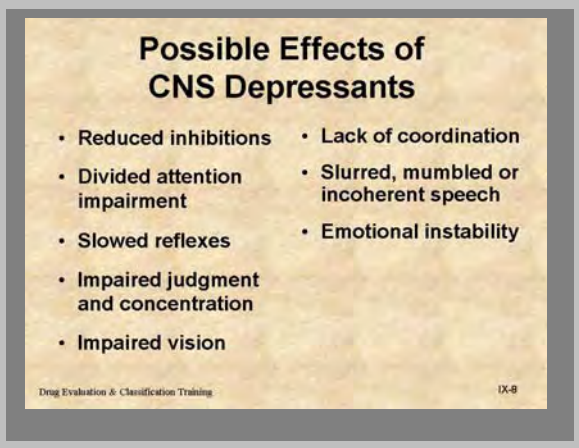
The Barbiturate user who injects the drug usually will not display the same type of track marks as the heroin addict who uses repeated injections along the same vein.

Barbiturate abusers often will inject in parts of the body other than the 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.

B. Possible Effects

Session 9-8: Possible Effects of CNS Depressants



CNS Depressants produce impairments of the human mind and body that essentially mirror alcohol impairment.

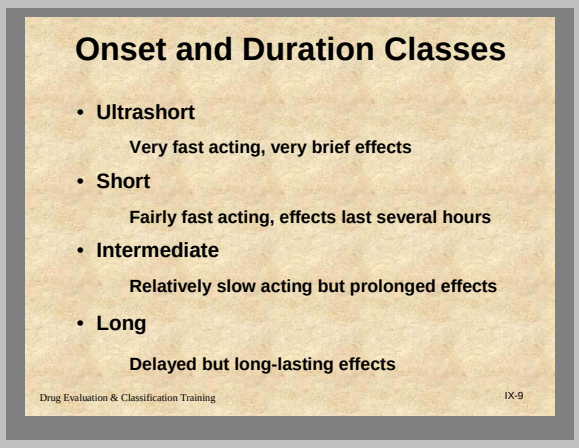
- Point out that these effects will not necessarily appear in a predictable sequence as dose increases.

- Reduced social inhibitions

- Divided attention impairment
- Clarification: impede the person's ability to concentrate on more than one thing at a time.
- Slowed reflexes
- Impaired judgment and concentration
- Impaired vision
- Elaboration: ability to focus eyes may be impaired; "double vision" may develop.
- Lack of coordination
- 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. Person's habituated to a drug often won't exhibit its effects as clearly as will a novice user.
- Produce a variety of emotional effects, such as euphoria, depression, suicidal tendencies, laughing or crying without provocation, etc.
- Generally speaking, a person under the influence of CNS Depressants will look and act drunk.
- Anti-Depressants may cause dry, sore throat, dry mouth, blurred vision, urinary retention, muscle twitching, restlessness, and increased anxiety.

Solicit students' questions and comments concerning possible effects of CNS Depressants.

Session 9-9: Onset and Duration Classes



Selectively reveal.

C. Onset and Duration Effects

Depressant drugs can be grouped loosely into four classes based on how quickly they take effect and how long their effects last.

Ask students: "Why is there little or no street abuse of the ultrashort CNS Depressants?"

Solicit responses.

Guide respondents to bring out the point that abusers seek drugs that will produce reasonable long lasting effects. Effects that last for only a few minutes aren't attractive or satisfying to most drug abusers.

Ultrashort

Ultrashort: very fast acting, very brief effects.

- Take effect in a matter of seconds.
- Effects last only a few minutes.
- Very rarely are the "drugs of choice" for drug abusers.
- Ultrashort depressants are sometimes used at the beginning of a surgical operation, in conjunction with an inhaled anesthetic.

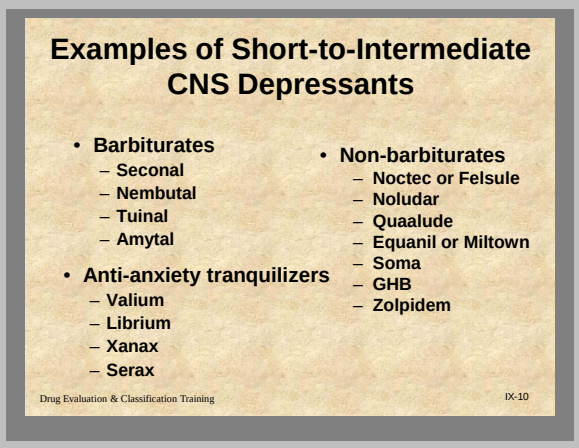
- Clarification: to provide a momentary sedation to ease the patient's anxiety and allow for the proper administration of the anesthetic.

- Psychiatrists sometimes use ultrashort depressants at the beginning of a session, to reduce the client's inhibitions and foster a free and open communication.

- Point out that this is sometimes called "truth serum."

- Common example of an ultrashort depressant is Thiopental, brand name "Pentothal."

Session 9-10: Examples of Short-to-Intermediate CNS Depressants



Short

Short: fairly fast acting, effects last for several hours.

- Point out that short acting depressants are attractive to many drug abusers because:

  - They produce effects reasonably quickly.

  - The effects last long enough to "enjoy."

  - The effects don't last so long that the user is in a prolonged state of impairment.

- Generally take effect in 10-15 minutes.

- Effects last for approximately 4 hours.

- This is the most commonly abused class of CNS Depressants.

Anti-Depressants Exceptions

- Note: Remind students that some anti-depressants may cause elevated body temperature, pulse rate, and pupil dilation.

Anti-Depressants may cause dry mouth, sore throat, blurred vision, urinary retention, muscle twitching, restlessness, and increased anxiety.

- Short acting Depressants frequently are prescribed as a treatment for insomnia.

- They also may be used as a pre-anesthetic medication to calm a patient prior to surgery.

- Common example of a short acting Depressant, Secobarbital, brand name "Seconal."

Intermediate

Intermediate: relatively slow acting, but prolonged effects.

- "Tuinal" i.e. two-in-all, is in between short and intermediate depressants.

- Point out that Tuinal is a combination of a fast acting drug (10-20 minutes onset, due to the Seconal) with prolonged effects (up to 8 hours, due to the Amytal).

- Generally take effect in about 30 minutes.

- Effects typically last about 6 – 8 hours.

- Fairly often abused, especially by users who desire a longer lasting state of intoxication.

- Medical use of this class of drugs is similar to that of short acting Depressants (i.e. treat insomnia, etc.)

- Common example of an intermediate Depressant: Amobarbital, brand name "Amytal"; "Tuinal."

- A popularly abused drug is Amobarbital in combination with Secobarbital.

Solicit students' questions and comments about the overview of CNS Depressants.

Long

Long: delayed but long lasting effects.

Ask students: "Why don't drug abusers usually prefer the long acting depressants?"

- Generally take effect about one hour after ingestion.
- Effects typically last 8 – 14 hours.
- Generally not the "drugs of choice" for abusers.
- However, some people will abuse the long acting Depressants if the more popular short and intermediate types are not readily available.
- Long acting Depressants are used medically in the control of epilepsy and of other conditions that can cause convulsions.
- They can also be used to provide continuing sedation to patients suffering from extreme anxiety.
- 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.

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.

Other examples of Short to Intermediate Depressants

- Point out that these are frequently abused CNS Depressants, but they are not the only depressants that are abused.

Barbiturates

- Seconal ("reds")
- Nembutal ("yellows")
- Tuinal ("rainbows")
- Amytal ("blues")

Non-Barbiturates

- Noctec or Felsule ("Mickey Finn")
- Noludar
- Quaalude ("Ludes")
- Placidyl
- Equanil or Miltown
- Soma
- Gamma Hydroxybutyrate (GHB)
- Zolpidem

Anti-Anxiety Tranquilizers

- Valium
- Librium
- Xanax
- Serax
- Klonopin
- Ativan
- Rohypnol

Point out that Rohypnol is currently not legally manufactured in the United States and is illegal to possess. However, it is legally manufactured and prescribed in other countries along with GHB, it is known as one of the "date rape" drugs.

D. Overdose Signs and Symptoms

Overdoses of the Central Nervous System Depressants produce symptoms essentially identical to those of alcohol overdoses.

- Subject will become extremely drowsy and may pass out.
- The heartbeat (pulse) will be rapid and weak.
- Respiration will become shallow.
- Skin may feel cold and clammy.

One major danger with CNS Depressant overdoses is death from respiratory failure.

- A sufficiently high dose of CNS Depressant will suppress the portions of the brain that control respiration.
- 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.
- With other depressants, it is relatively easy to take a fatal overdose.

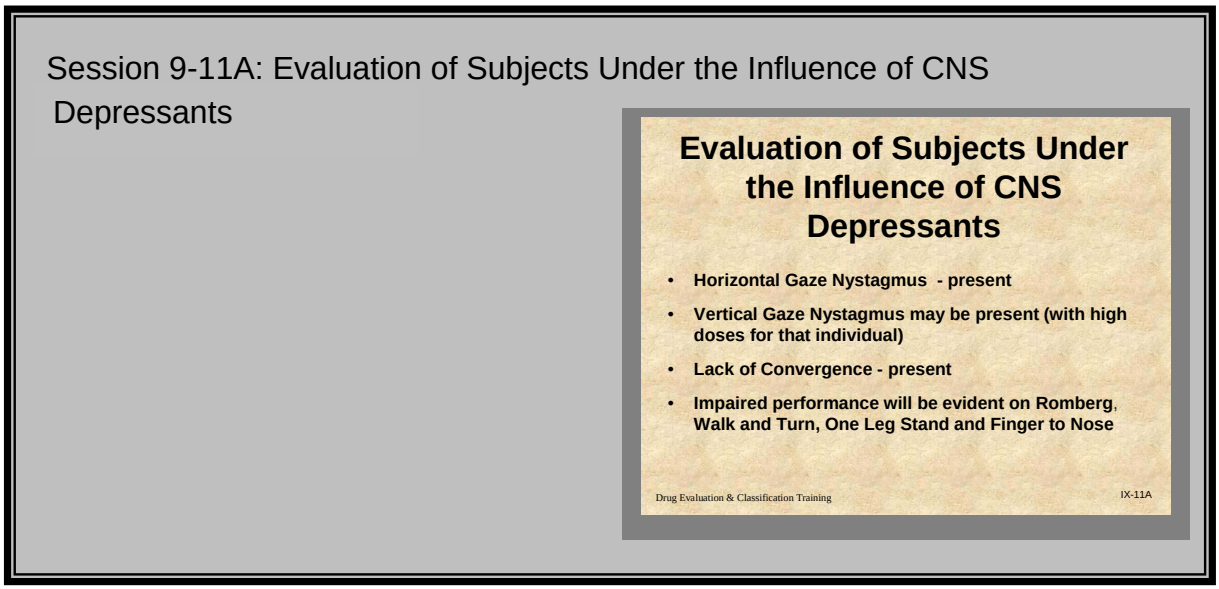
- Point out that CNS Depressants are often used as a means of suicide.

Another major danger with CNS Depressants occurs when they are combined with alcohol.

- 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.
- There is at lease an additive effect when alcohol and another depressant are taken together.
- With many CNS Depressants, there may be a more then additive effect.
- 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.
- It is not possible to predict how great an effect will occur when alcohol is mixed with another depressant.
- However, it is clear that the combination is always risky.

Solicit students' questions and comments concerning overdoses of CNS Depressants.

E. Expected Results of the Evaluation

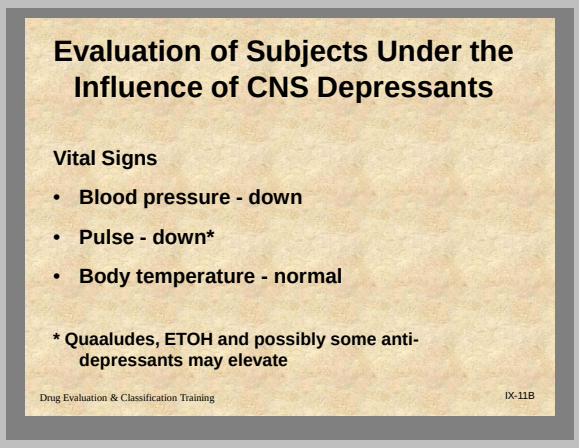


Observable Evidence of Impairment

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.

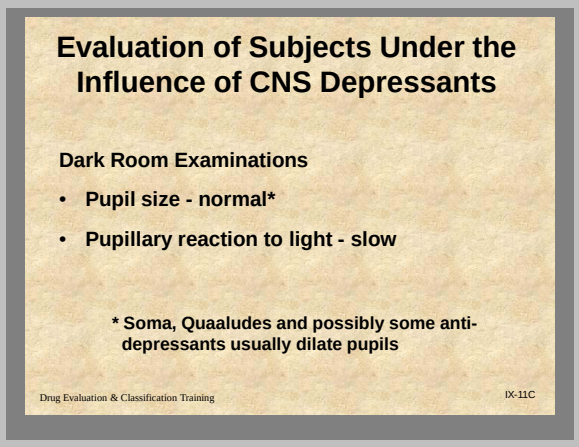
- Horizontal Gaze Nystagmus will be present with suspects under the influence of CNS Depressants.
- Vertical Gaze Nystagmus may be present, with high doses, of depressants for that individual.
- Performance on Romberg, Walk and Turn, One Leg Stand, and Finger to Nose tests will be similar to that of suspects impaired by alcohol.
- Point out that subject's perception of time (on Romberg) may be slowed, i.e. may estimate "30 seconds" after more than 30 seconds has elapsed.

Session 9-11B: Evaluation of Subjects Under the Influence of CNS Depressants



- Blood pressure will be down.
- Pulse will be down.
- Body temperature generally will be normal.

Session 9-11C: Evaluation of Subjects Under the Influence of CNS Depressants

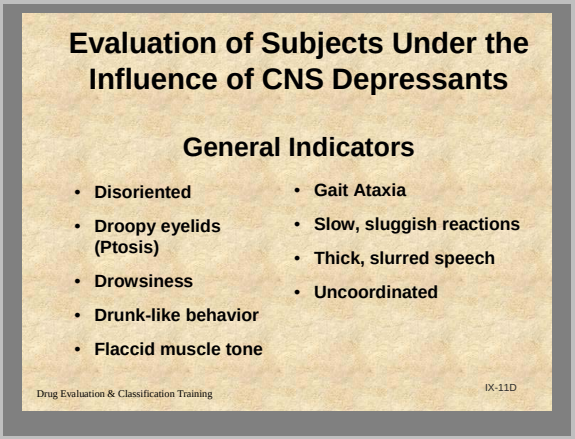


- Pupil size generally will be normal.
- Pupillary reaction to light will be slowed.

Possible exceptions:

- Quaaludes (Methaqualone) and alcohol may cause the pulse to be increased.
- Quaaludes, ETOH, and some anti-depressants may possibly elevate pulse rate.
- Soma Quaaludes and possibly some anti-depressants usually dilate pupils.

Session 9-11D: Evaluation of Subjects Under the Influence of CNS Depressants



General Indicators

- disoriented
- droopy eyes (ptosis)
- drowsiness
- drunk-like behavior
- flaccid muscle tone
- gait ataxia
- slow, sluggish reactions
- thick, slurred speech
- 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.

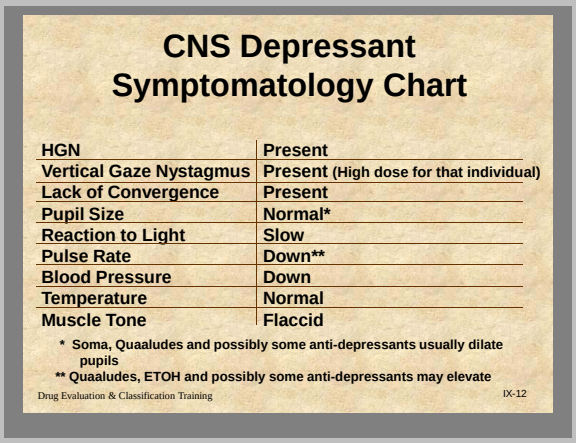
Anti-Depressant Exceptions:

- Some Anti-Depressants may cause elevated body temperature, pulse rate, and pupil dilation.

- Anti-Depressants may cause dry, sore throat, dry mouth, blurred vision, urinary retention, muscle twitching, restlessness, and increased anxiety.

Summary

Session 9-12: CNS Depressant Symptomatology Chart



Demonstrations

Video Demonstrations

Show video of subject(s) under the influence of CNS Depressants. Relate behaviors and observations to the CNS Depressant Symptomatology Chart.

Drug Evaluation and Classification Exemplar Demonstrations

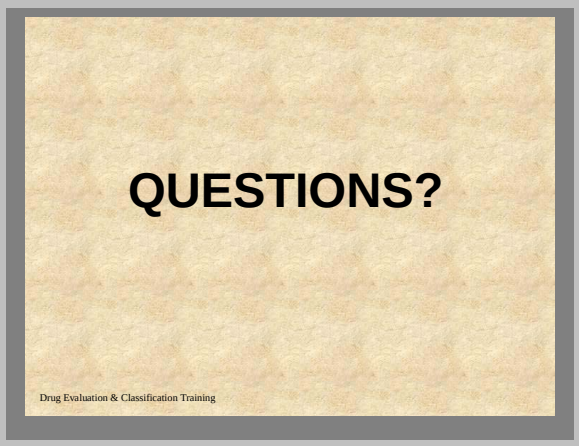
Refer students to the exemplars found at the end of section IX of their student manuals.

Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved narrative report. The actual narrative report submitted by DREs will be more detailed.

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.

Session 9-13: Questions



DRUG INFLUENCE EVALUATION

Evaluator: PFC David Pacoe, B.C. P.D.	DRE #: 5293	Rolling Log #: 2073	**Session IX - #1**
Recorder/Witness: Lt. Tom Woodward, Maryland SP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-100455
Arrestee's Name (Last, First, Middle): Cockroft, Carolyn L.	Date of Birth: 4/21/64	Sex: F	Race: W
Arresting Officer (Name, ID#): Officer Mike Gregor, MTA P.D. #30125			
Date Examined / Time /Location: 08-06-10, 0145, Tunnel Command Office	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 100324	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

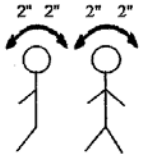
Miranda Warning Given: Given By: Ofc. Gregor	☒ Yes ☐ No	What have you eaten today? When? Chicken Soup 8 pm	What have you been drinking? How much? Nothing N/A	Time of last drink? N/A
Time now/ Actual: Midnight/0215	When did you last sleep? How long: Last night/ 6 hours	Are you sick or injured? ☐ Yes ☒ 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 "None of your business"	Attitude: Sullen, With-drawn, non-responsive at times	Coordination: Poor, Stumbling, Staggering		
Speech: Slurred at times	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☒ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 60 / 0222	Lack of Smooth Pursuit	Yes	Yes
2. 58 / 0230	Maximum Deviation	Yes	Yes
3. 58 / 0244	Angle of Onset	35	35

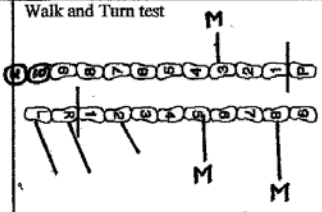
Convergence — Right eye / Left eye

26 ONE LEG STAND 28

Romberg Balance



Walk and Turn test



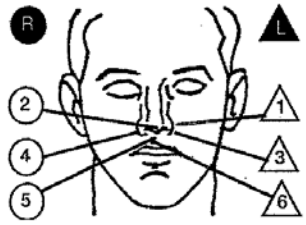
Took two extra steps at end

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon	✓	
Stops walking		
Misses heel-toe	✓✓	✓
Steps off line	✓	
Raises arms	✓✓	✓
Actual steps taken	9	11

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

Internal clock: 46 estimated as 30 seconds	Describe Turn: Lost balance	Cannot do test (explain): N/A	Type of footwear: Loafers

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.0	6.0	3.5
Right Eye	4.0	6.0	3.5

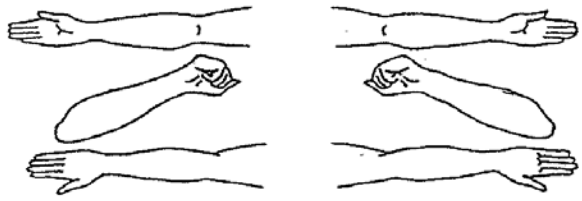
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure: 110/70	Temperature: 98.2		
Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid			
Comments:			
What drugs or medications have you been using? "I told you, it's none of your business"	How much? No response	Time of use? No response	Where were the drugs used? (Location) No response
Date / Time of arrest: 08/06/10 0115	Time DRE was notified: 0140	Evaluation start time: 0145	Evaluation completion time: 0300
Officer's Signature:	DRE #: 5293	Reviewed/approved by / date:	Precinct/Station: Tunnel Station

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Cockroft, Carolyn

1. **LOCATION:** The evaluation was conducted at 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:** Cockroft's breath test was 0.00%

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was notified that Officer Gregor had arrested a subject for DUI and was requesting a drug evaluation. Writer contacted Officer Gregor at the M.T.A. Tunnel Command office where it was determined that the suspect had been observed driving at 30 MPH on I-95 near the tunnel. When contacted, the suspect appeared dazed and disoriented. She was unable to perform the roadside SFST's as directed and was arrested for DUI.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the Processing Room. She was quiet, withdrawn and slow to respond to questions. When she would try to walk, she would stumble and several times nearly fell.

6. **MEDICAL PROBLEMS AND TREATMENT:** None observed or stated.

7. **PSYCHOPHYSICAL TESTS:** Romberg Balance: The suspect exhibited a 2" front to back and side to side sway. She estimated 30 seconds in 46 seconds. Walk and Turn: The suspect lost her balance during the instructions, started too 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 all 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 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:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Officer Jason Craven, California H.P.	DRE #: 4480	Rolling Log #: 07-28	**Session IX - #2**
Recorder/Witness: Officer Travis Herbert, CHP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-445690
Arrestee's Name (Last, First, Middle): Henry, Michael James	Date of Birth: 3/11/70	Sex: M	Race: W
Arresting Officer (Name, ID#): Sgt. Helena Williams, CHP #113408			
Date Examined / Time /Location: 09-06-10, 2110 hours, W. Sacramento	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 200548	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: ☒ Yes ☐ No Given By: Sgt. Williams	What have you eaten today? When? Cheeseburger 10	What have you been drinking? Nothing	How much? N/A	Time of last drink? N/A	
Time now/ Actual: 10 pm / 2115	When did you last sleep? How long: Last night / 8 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 Doctor for Stress			
Are you taking any medication or drugs? ☒ Yes ☐ No "Just Xanax"	Attitude: Withdrawn, Cooperative	Coordination: Poor, Slow, Sluggish			
Speech: Slurred, thick at times	Breath Odor: Normal	Face: Normal			
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal		
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy		

Pulse and time

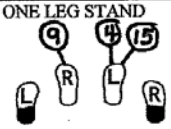
1.	62	2130
2.	62	2142
3.	58	2200

HGN

	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	40	40

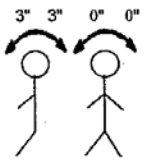
Convergence: Right eye ✓ Left eye ✓

29 ONE LEG STAND 27

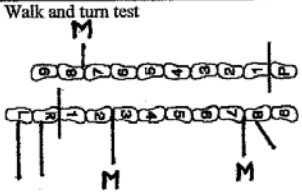


L R
✓ ✓ Sways while balancing
☑ ☑ Uses arms to balance
☐ ☐ Hopping
☑ ☑ Puts foot down

Romberg Balance



Walk and turn test

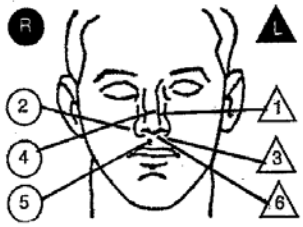


Slow, rubber legged walk

	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking		
Misses heel-toe	✓✓	✓
Steps off line	✓	
Raises arms	✓✓✓	✓✓✓✓
Actual steps taken	9	9

Internal clock: 50 estimated as 30 seconds	Describe Turn: Lost balance	Cannot do test (explain): N/A
		Type of footwear: Lace up boots

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.5	6.5	3.5
Right Eye	4.5	6.5	3.5

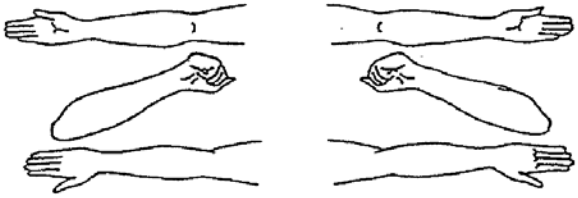
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Blood pressure: 106/66	Temperature: 98.6

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Nothing observed

Comments:

What drugs or medications have you been using? Xanax	How much? A couple	Time of use? 6 pm	Where were the drugs used? (Location) McDonald's
Date / Time of arrest: 09/06/10 2015	Time DRE was notified: 2050	Evaluation start time: 2110	Evaluation completion time: 2210
Precinct/Station: West Sac			
Officer's Signature:	DRE #: 4480	Reviewed/approved by / date:	

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

Revised. 10/10

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Henry, Michael J.

1. LOCATION: The evaluation took place at the West Sacramento CHP office.

2. WITNESSES: Arresting Officer, Sergeant Helena Williams and Officer Travis Herbert, CHP.

3. BREATH ALCOHOL TEST: Henry's breath test was a 0.00%

4. NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER: Writer was requested to conduct a drug evaluation for Sergeant Williams at the West Sacramento CHP office. Sergeant Williams advised that she 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. Sergeant Williams further advised that the suspect appeared to be impaired 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. PSYCHOPHYSICAL TESTS: Romberg Balance: The suspect swayed approximately 3" front to back and estimated 30 seconds in 50 seconds. Walk and Turn: The suspect lost his balance twice during the instructions, stepped off the line, missed heel to toe three times, raised his arms for balance and lost his balance while turning. One Leg Stand: Suspect swayed, raised his arms and put his foot down once while standing on the left foot and twice while standing on the right foot. Finger to Nose: Suspect missed the tip of his nose on each attempt.

8. CLINICAL INDICATORS: Henry exhibited HGN and a Lack of Convergence. One of his pulse rates was below the normal range. His blood pressure was below the normal range.

9. SIGNS OF INGESTION: None observed.

10. SUSPECT'S STATEMENTS: The suspect admitted taking Xanax. He stated he takes the Xanax three times a day for stress.

11. DRE'S OPINION: In my opinion Henry is under the influence of a CNS Depressant and was unable to operate a vehicle safely.

12. TOXICOLOGICAL SAMPLE: The suspect provided a urine sample.

13. MISCELLANEOUS: The suspect voluntarily produced a pill bottle containing his Xanax pills. The prescription for 30 pills had been filled two days earlier. There were only 12 pills remaining in the bottle.

Rev. 10/10

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

6. What is a trade name for the generic drug "Alprazolam"?

   Xanax

7. What is the name of the subcategory of CNS Depressants that is also known as the "Minor Tranquilizers"?

   Anti-Anxiety Tranquilizers

1 Hour and 45 Minutes

SESSION X

CENTRAL NERVOUS SYSTEM STIMULANTS

SESSION X CENTRAL NERVOUS SYSTEM STIMULANTS

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

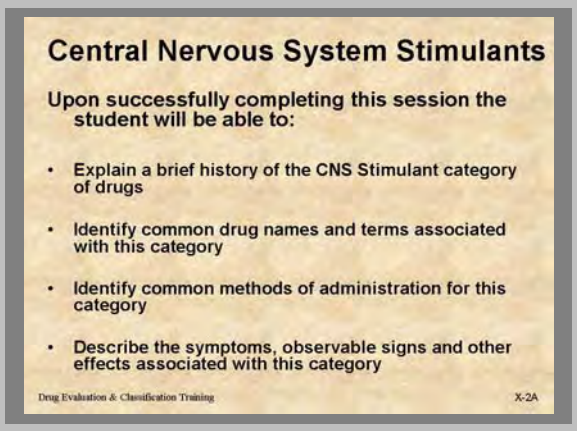
- Explain a brief history of the CNS Stimulant category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe 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	▪ Instructor Led Presentations
B. Possible Effects	▪ Review of the Drug Evaluation and Classification Exemplars
C. Onset and Duration Effects	▪ Reading Assignments
D. Overdose Signs and Symptoms	▪ Video Presentations
E. Expected Results of the Evaluation	▪ Slide Presentations

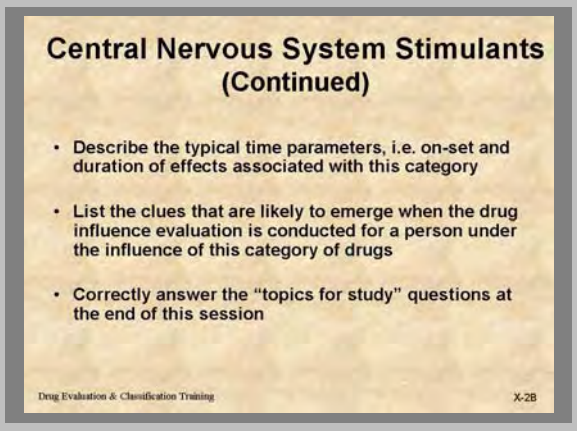
I. CENTRAL NERVOUS SYSTEM STIMULANTS

Session 10-1: Session 10

Session 10-2A: Central Nervous System Stimulants



Session 10-2B: Central Nervous System Stimulants (cont.)



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

A. Overview of the Category

CNS Stimulants speed up the operation of the Central Nervous System.

- "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.
- The "speeding up" results in increased heartbeat, pulse, respiration, blood pressure, and temperature.

All of these effects can lead to physical harm to the stimulant user.

- 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.

The "speeding up" also produces nervousness, irritability and an inability to concentrate or think clearly.

These psychological effects can lead to unpredictable and bizarre behavior by the stimulant user.

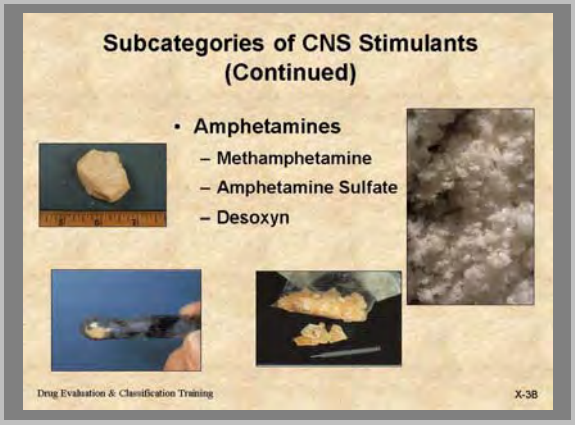
Session 10-3A: Subcategories of CNS Stimulants

Subcategories of CNS Stimulants

There are three major subcategories of Central Nervous System Stimulants.

- Cocaine

Session 10-3B: Subcategories of CNS Stimulants (cont.)



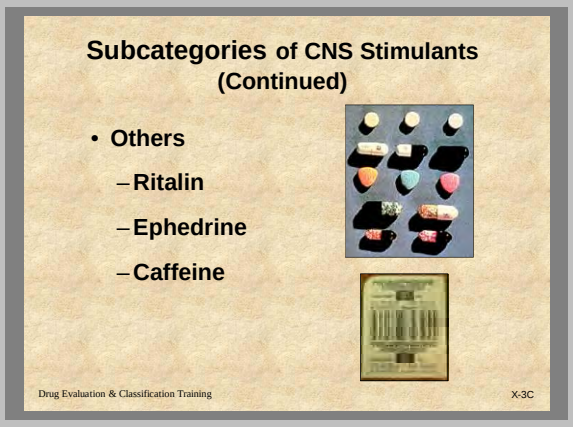
- The Amphetamines

    - Point out that the Amphetamines include a large number of individual drugs, only a few of which are listed on Visual X-3B.

Examples:

- Methamphetamine
- Amphetamine Sulfate
- Desoxyn

Session 10-3C: Subcategories of CNS Stimulants (cont.)



- Others
  - Point out 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.
  - Ritalin (methylphenidate hydrochloride)
  - Ephedrine
  - Caffeine
- Point out that we will focus on Cocaine and the Amphetamines, because they are the most widely abused CNS Stimulants. But, the students should be aware that there are many other stimulant drugs.

Session 10-4: Coca Plant

Cocaine

Cocaine derives from the coca plant.

Coca plant: Scientific name "Erythroxylon Coca."

- The plant is native to South America.
- Cocaine is made from the leaves of the coca plant.
- Note: the coca plant should not be confused with the cocoa plant, from which chocolate is made.
- Archaeological evidence indicates that natives of Peru chewed coca leaves 5,000 years ago.
- Sigmund Freud personally experimented with Cocaine for approximately 3 years.
- Small quantities of Cocaine originally were included in the formula of Coca Cola.
    - Use of Cocaine in products as Coca Cola was outlawed by the Pure Food and Drug Law of 1906.

Amphetamines

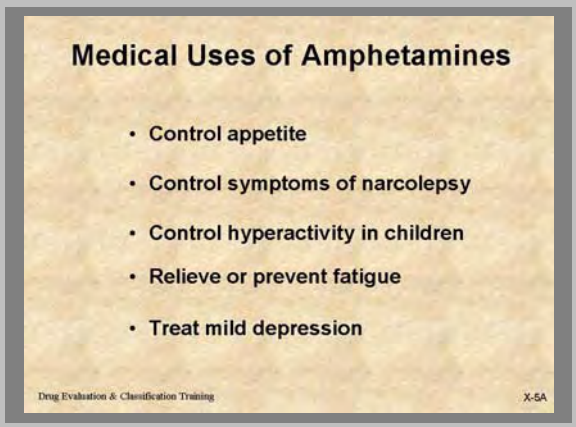
Amphetamines were first synthesized near the end of the 19th Century.

The first use of Amphetamines for medical purposes began in the 1920's.

Initial medical application was to treat colds.

- Amphetamines cause the nasal membranes to shrink.
- 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.

Session 10-5A: Medical Uses of Amphetamines



Present day medical purposes for amphetamines include:

- Control appetite.
    - Many over the counter appetite control products contain CNS Stimulants as their active ingredient.
- Control symptoms of narcolepsy.
    - Narcolepsy: an extremely rare disorder that causes the individual to fall asleep compulsively, often several hundred times per day.
- Control certain hyperactive behavioral disorders.

- Example: Ritalin is commonly prescribed for children diagnosed with ADD or similar disorders.

- Relieve or prevent fatigue to allow persons to perform essential tasks of long duration.

  - 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.

- Treat mild depression.

Session 10-5B: Other Medical Uses of Amphetamines

- 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.

- Prevent and treat surgical shock.

- Maintain blood pressure during surgery.

- Treat Parkinson's Disease.

  - Parkinson's Disease: a form of paralysis characterized by muscular rigidity, tremor and weakness.

- Enhance the action of certain analgesic (pain killer) drugs.

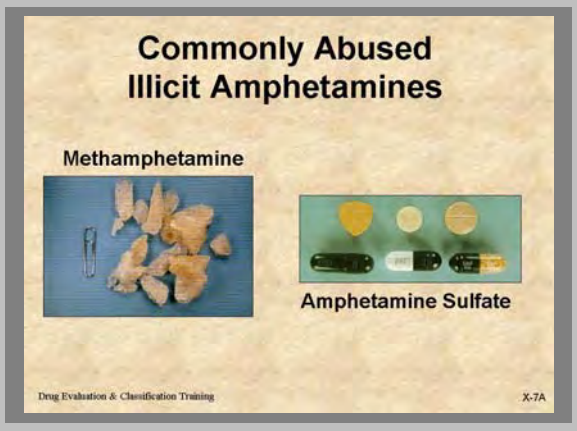
Numerous pharmaceutical companies manufacture Amphetamines for these purposes.

Session 10-6: Commonly Prescribed Pharmaceutical Amphetamines

Examples of common pharmaceutical Amphetamines:

- Dexedrine (dextroamphetamine) used to treat narcolepsy and hyperkinetic behavior, and for weight control. (Street names “Dexies”; “Hearts”)
- Note: Dexedrine probably is the most commonly prescribed Amphetamine.
- Benzedrine (Amphetamine Sulfate) used to treat narcolepsy, hyperkinetic behavior and weight problems. (Street names “Bennies”; “Whites”; “Cartwheels”)
- Desoxyn (Methamphetamine Hydrochloride, also known as Desoxyephedrine) used in weight reduction.
- Adderall (Combination of Dextroamphetamine and Amphetamine)

Session 10-7A: Commonly Abused Illicit Amphetamines



Large quantities of Amphetamines are also illegally manufactured in this country.

If available, display slides of illicitly manufactured methamphetamine and amphetamine sulfate.

- The most commonly abused illicit Amphetamine is Methamphetamine.
- Methamphetamine Hydrochloride is a white to light brown crystalline powder, or clear chunky crystals resembling ice. Methamphetamine base is a liquid.
- 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.
- Medicinally, Methamphetamine is used in the treatment of:
    - Narcolepsy
    - Attention Deficit Disorder (ADD)
    - Attention Deficit Hyperactivity Disorder (ADHD)

- Methamphetamine is also known as Methedrine or Methamphetamine Hydrochloride.

- It's more common street names are "speed"; "crank"; "ice"; "crystal"; "meth"; and "water."

Session 10-7B: Other CNS Stimulants

Other CNS Stimulants

There are some other CNS Stimulants, apart from Cocaine or the Amphetamines.

If available, display slides of Ritalin.

Ritalin is a manufactured, non-Amphetamine CNS Stimulant:

Ask students if they know of any children for whom Ritalin has been prescribed.

- Generic name Methylphenidate Hydrochloride.

- Used to treat mild depression, hyperkinetic behavior, narcolepsy and drug induced lethargy produced by CNS Depressants.

- 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.

Ephedrine

Ephedrine is a licitly manufactured stimulant used in diet aides and body building supplements. It can also be found in herbal preparations and numerous over-the-counter (OTC) substances.

Cathine and Cathinone

Cathine and Cathinone are the two psychoactive chemicals derived from the Khat plant. It originates from the sub-Sahara regions of Africa.

- Also known as "cat."
- Methcathinone is illicitly manufactured from common household chemicals. Effects are very similar to Methamphetamine.

Session 10-8A: Methods of Ingesting Stimulants

Methods of Ingestion of CNS Stimulants

There are a variety of ways in which the different CNS Stimulants may be ingested.

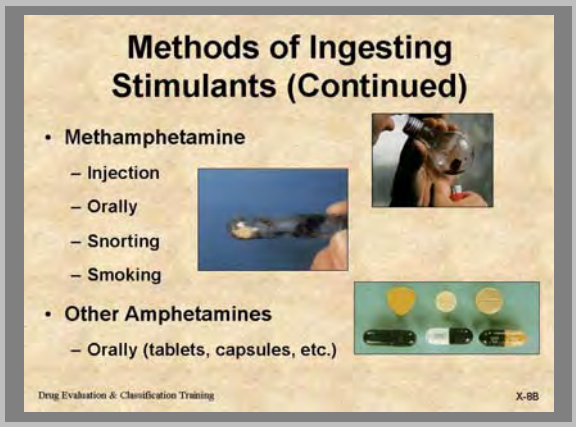
Cocaine is commonly insufflated (snorted), smoked, injected and taken orally.

In order to be smoked, a pure form of Cocaine is required.

- Much of the Cocaine sold in this country is mixed with other materials, or chemically bonded to other elements.
- Various chemical processes can be used to "free" the Cocaine from other elements and impurities.
- One such process produces pure Cocaine in the form of small chunks.

- These chunks are known as “Crack” or “Rock Cocaine.”
    - Note: the term “Crack” derives from the cracking sound produced when the chunks are burned for smoking.
- Licitly manufactured Amphetamines are taken orally, in the form of tablets, capsules and liquid elixirs.

Session 10-8B: Methods of Ingesting Stimulants (cont.)

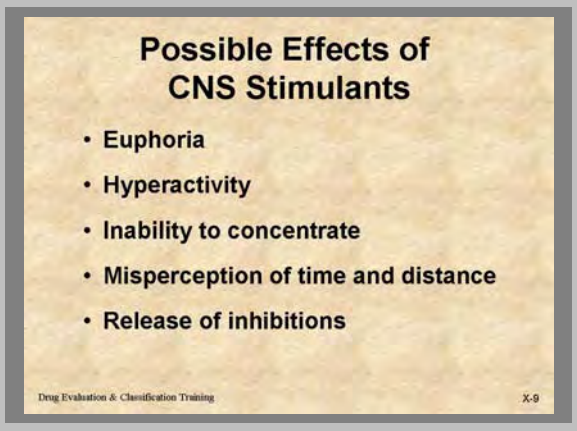


- Illicitly manufactured Methamphetamine most commonly is injected or smoked but sometimes may be snorted or taken orally.
- Point out that bruising often will be seen around a Methamphetamine injection site.
- The smokeable forms of Methamphetamine are known as “Crystal Meth” or “Ice.” They contain the same active chemical compound as powdered Methamphetamine, but undergo a re-crystallization process in which some impurities are removed.
- Point out that “Ice” is a clear crystal similar in appearance to rock candy, crushed ice, or broken glass.
- Point out that “Crystal Meth” is less pure and has a cloudy appearance or maybe yellowish, tan, or even brown in color.
- Amphetamine Sulfate usually is produced in tablet form (called “mini bennies”) and is taken orally.

Solicit students questions and comments about the overview of CNS Stimulants.

B. Possible Effects

Session 10-9: Possible Effects of CNS Stimulants



Both Cocaine and the Amphetamines produce euphoria, a feeling that there are no problems.

- A feeling of super strength and absolute self confidence may also be present.

- With Cocaine, but not with Amphetamines, there is an anesthetic effect, and the dulling of pain may contribute to the euphoria.

Stimulant users tend to become hyperactive, indicated by a nervousness, extreme talkativeness, and an inability to sit still.

CNS Stimulants tend to release inhibitions, allowing users to commit acts that they normally would avoid.

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.

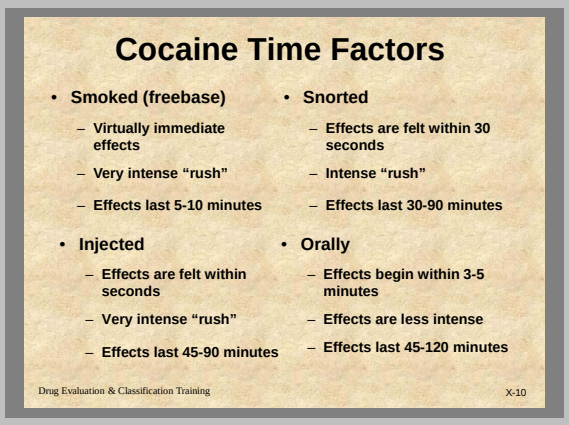
Persons under the influence of CNS Stimulants become easily confused, and lose the ability to concentrate or to think clearly for any length of time.

- 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.

C. Onset and Duration of Effects

Session 10-10: Cocaine Time Factors



The onset and duration of effects are quite different for Cocaine as compared to Amphetamines.

- Generally speaking, Cocaine's effects are much briefer than are Amphetamine's.
- 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 normal.

Cocaine: Smoked

When Cocaine is smoked, or "freebased," the drug goes immediately to the lungs, and is absorbed into the blood stream very rapidly.

- The smoker begins to feel the effects of the Cocaine virtually immediately.
- Note: Injection sites will be discussed in Session XVII (Narcotic Analgesics).
- The "rush," or euphoria is reported to be very intense.

- However, the euphoric effects only last 5 – 10 minutes after the Cocaine is smoked.

Cocaine: Injected

When Cocaine is injected, the drug is passed directly to the blood stream, where it is carried swiftly to the brain.

- The effects are felt within seconds.
- The onset of effects is very intense.
- The effects usually last 45 - 90 minutes. (Source: "Disposition of Toxic Drugs and Chemicals in Man")

Cocaine: Snorted

When Cocaine is snorted (insufflated), the onset of effects is not quite as rapid as with smoking or injecting.

- Point out that snorting remains a very popular method of ingesting Cocaine.
- The user typically feels the onset of effects within 30 seconds after snorting the drug.
- Although the "rush" occurs, it is not quite as intense as it is when the Cocaine is smoked or injected.
- The effects from snorting usually last from 30 – 90 minutes.

Cocaine: Oral Ingestion

- Oral ingestion of Cocaine usually is the least preferred method.
- Clarification: the effects of Cocaine taken orally may last from 45 – 120 minutes.
- The user generally does not begin to feel the effects for 3 – 5 minutes.
- The effects are not as intense as they are with other methods of ingestion.
- However, the effects may last 15 – 30 minutes longer than with other methods.

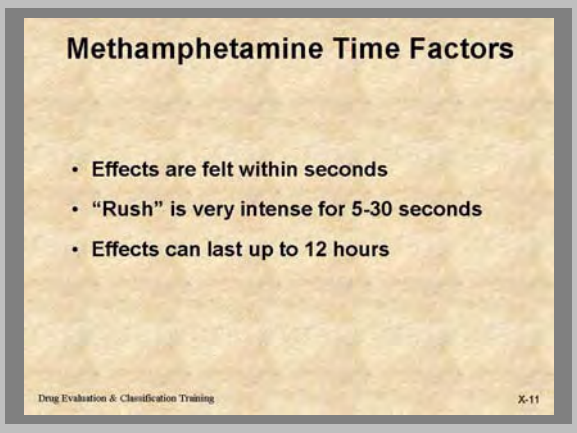
With all methods of ingestion, the duration of Cocaine's effects tend to be briefer than the effects of most other drugs.

- Point out 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.

- As the effects wear off, it becomes very difficult to observe evidence of impairment.

- If the subject is not evaluated by a DRE fairly soon after the subject has been apprehended, the DRE may not uncover evidence of the CNS Stimulant.

Session 10-11: Methamphetamine Time Factors



Methamphetamine: Injected

When Methamphetamine is injected, the initial effects are very similar to the injection of Cocaine.

- The user beings to feel the effects within a few seconds.

- The "rush" is very intense, and lasts at a high level of intensity for 5 – 30 seconds.

- Unlike Cocaine, Methamphetamine's effects are longer and may last up to 12 hours after injection.

Methamphetamine: Smoked

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).

Methamphetamine: Snorted

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.

D. Overdose Signs and Symptoms

Overdose of Cocaine or Amphetamines can cause the pleasurable effects to turn into panic and often violent behavior. If the overdose is caused by Cocaine, it is commonly referred to as Cocaine Psychosis or Cocaine Delirium.

Write on dry erase board or flip-chart "Cocaine Psychosis or Cocaine Delirium."

- Subject may become very confused and aggressive.
- Subject may suffer convulsions and faint or pass into a coma.
- Heartbeat (pulse) will increase, possibly dramatically.
- Hallucinations may occur.
    - Example: The feeling that bugs are crawling under the skin is also known as "Coke Bugs." The medical term for this condition is formication.

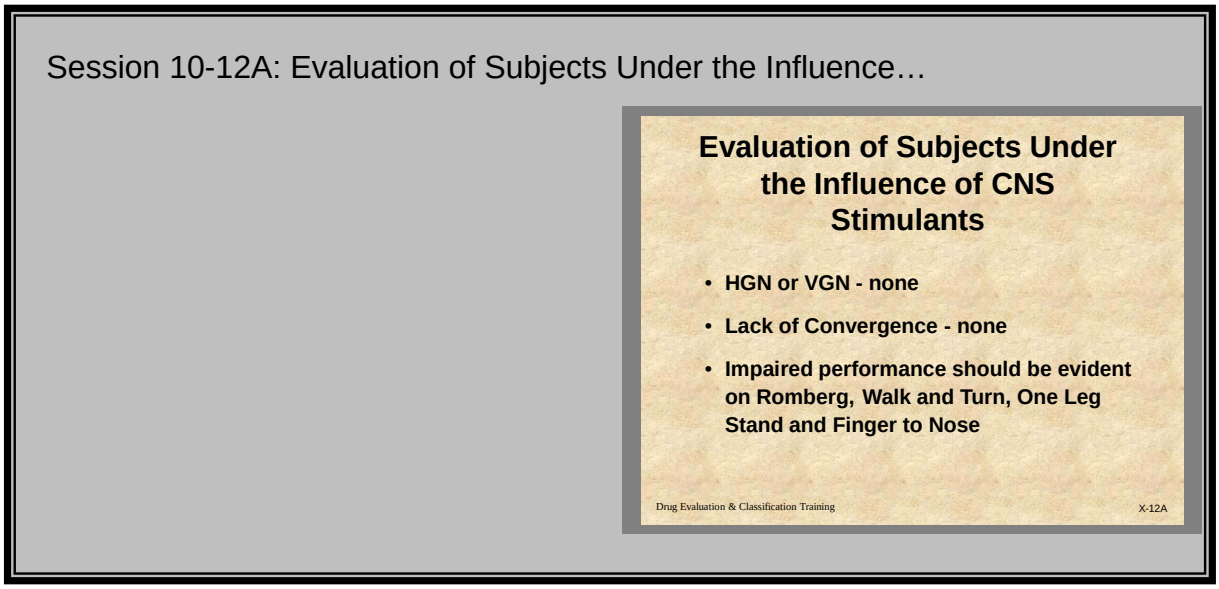
Death can occur from sudden respiratory failure, or from heart arrhythmia, leading to cardiac arrest.

- Note: It is important that officers are aware of this to avoid custody deaths.

Another danger is that subjects may attempt to treat CNS Stimulant overdoses with Barbiturates, possibly leading to overdose of CNS Depressants.

Solicit students' comments and questions concerning overdoses of CNS Stimulants.

E. Expected Results of the Evaluation

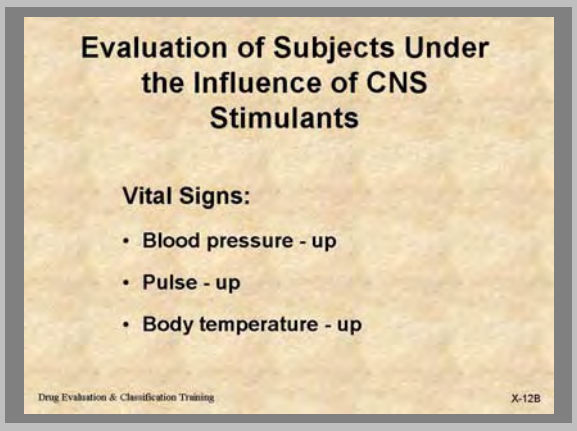


Observable Evidence of Impairment

- Horizontal Gaze Nystagmus will not be present with subjects under the influence of CNS Stimulants.
- Vertical Gaze Nystagmus will not be present.
- Lack of Convergence will not be evident.
- Performance on Romberg should 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 sped up.
- Performance on Walk and Turn may be impaired due to the subject's hyperactivity and inability to concentrate.
    - Example: subject may start too soon on the Walk and Turn, and may tend to walk fast, thus losing balance or missing heel-to-toe.
- Performance on the One Leg Stand may be impaired due to the subject's hyperactivity.
    - Example: subject may also count very rapidly on the One Leg Stand test.

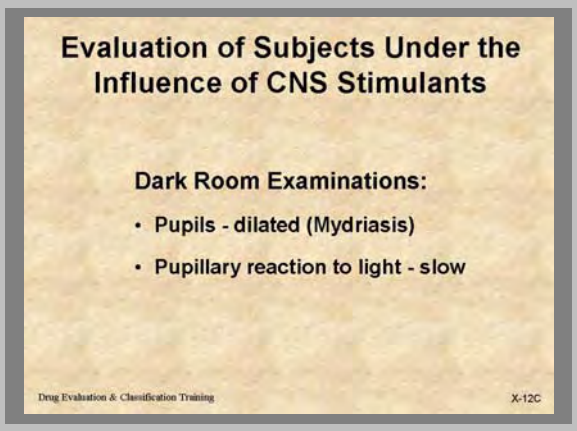
- Performance on the Finger to Nose test should be impaired.
    - His or her finger movements may be abrupt, jerky and inaccurate.

Session 10-12B: Evaluation of Subjects Under the Influence …



- Blood pressure will generally be elevated.
- Pulse generally will be increased.
- Body temperature generally will be elevated.

Session 10-12C: Evaluation of Subjects Under the Influence…

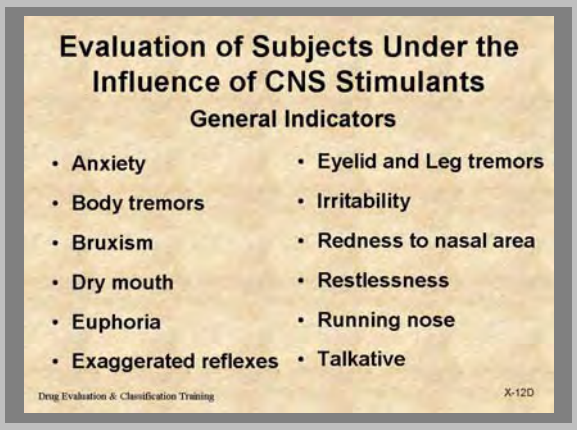


- Pupils generally will be dilated.

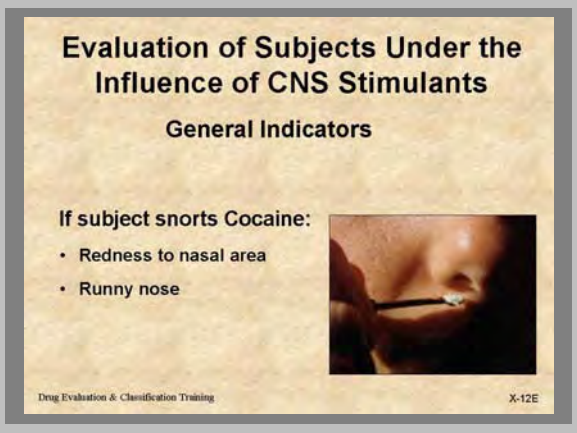
- The technical term for "dilated pupils" is Mydriasis.

- Pupil reaction to light generally will be slow.

Session 10-12D: Evaluation of Subjects Under the Influence…



Session 10-12E: Evaluation of Subjects Under the Influence



General Indicators

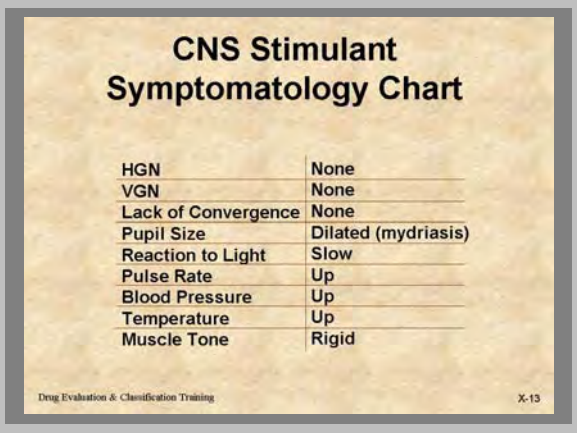
- anxiety
- body tremors
- bruxism (grinding teeth)
- dry mouth
- euphoria
- excited
- exaggerated reflexes
- eyelid and leg tremors

- increased alertness
- insomnia
- irritability
- redness to nasal area
- restlessness
- rigid muscle tone
- runny nose
- talkative

Note: Indicators associated with the nasal area may be evident if the subject is in the habit of snorting Cocaine.

Summary

Session 10-13: CNS Stimulant Symptomatology Chart



Demonstrations

Show DVD of subject(s) under the influence of CNS Stimulants. Relate behavior/ observations to the CNS Stimulant Symptomatology Chart.

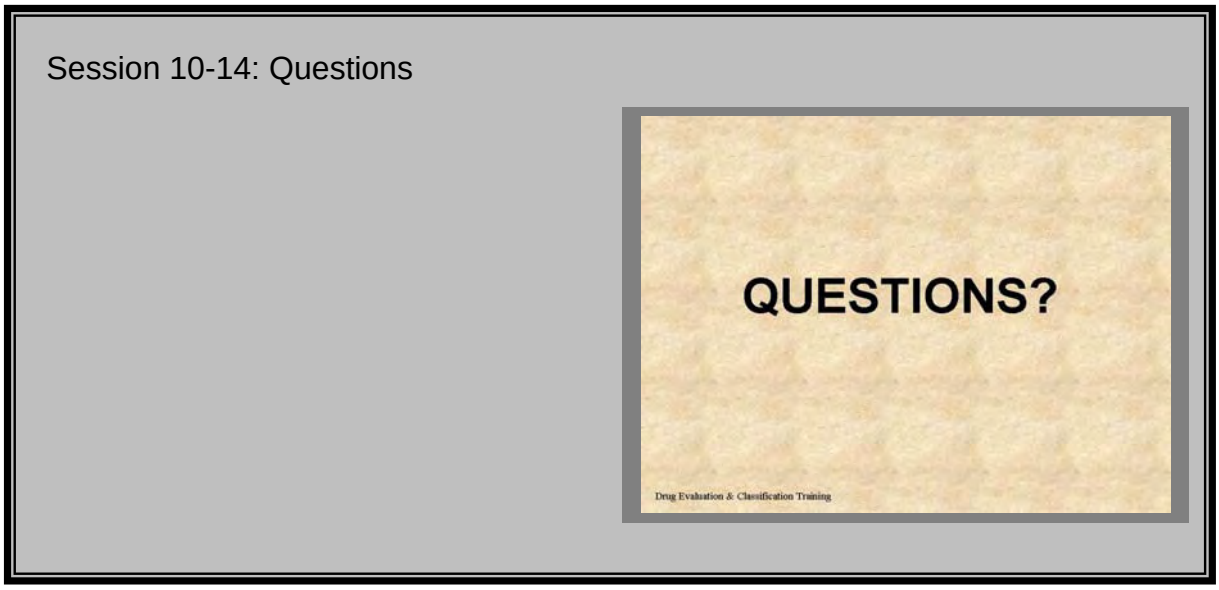
Video Demonstrations

Drug Evaluation and Classification Exemplar Demonstrations

Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved narrative report. The actual narrative report submitted by DREs will be more detailed.

Refer students to the exemplars found at the end of Section X in their student manuals.

Relate the items on the exemplars to the CNS Stimulant Symptomatology Chart.



Solicit students' questions or comments concerning expected results of the evaluation of subjects under the influence of CNS Stimulants.

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Ross Batson, Arkansas H.P.	DRE # 7883	Rolling Log # 10-10-014	**Session X - #1**
Recorder/Witness: Pam Mays, Arkansas CJI	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-44580
Arrestee's Name (Last, First, Middle): Hedlund, James R.	Date of Birth: 7/10/63	Sex: M	Race: W
Arresting Officer (Name, ID#): TFC Jeff Hust Arkansas H.P. #11340			
Date Examined / Time /Location: 02-08-10, 2230 Pulaski Co. Jail	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 600458	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: Given By: TFC Hust	☒ Yes ☐ No	What have you eaten today? When? Candy bar About 6 pm	What have you been drinking? How much? Nothing
Time of last drink? N/A			
Time now/ Actual: 8 pm/10:45 pm	When did you last sleep? How long: Last night / 2 - 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: Talkative, Cooperative	Coordination: Poor, Quick, Unsteady	
Speech: Quick, Slurred at times	Breath Odor: Normal	Face: Normal	

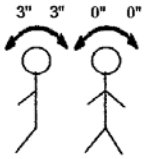
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy

Pulse and time	HGN	Left Eye	Right Eye
1. 102 / 2240	Lack of Smooth Pursuit	No	No
2. 100 / 2253	Maximum Deviation	No	No
3. 100 / 2305	Angle of Onset	None	None

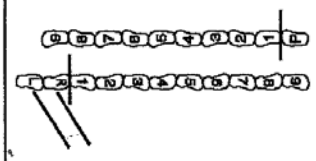
Convergence: Right eye → ← Left eye

24 ONE LEG STAND 22

Romberg Balance



Walk and Turn test



Walked quickly

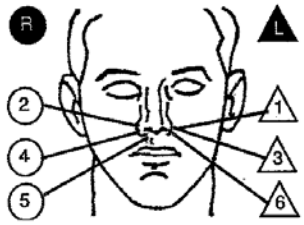
	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon	✓	
Stops walking		
Misses heel-toe		
Steps off line		
Raises arms	✓✓✓	✓✓
Actual steps taken	9	9

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

Counted quickly

Internal clock: 22 estimated as 30 seconds	Describe Turn: Quick, spun around	Cannot do test (explain): N/A	Type of footwear: Boots

Draw lines to spots touched



Quick movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.0	9.0	5.5
Right Eye	6.0	9.0	5.5

Nasal area: White powder left nostril

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

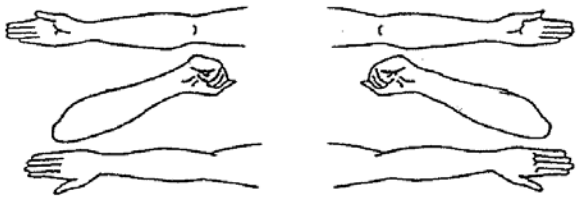
REACTION TO LIGHT: Slow

Blood pressure: 142/96	Temperature: 99.8

Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid

Comments:

RIGHT ARM **LEFT ARM**



Nothing observed

What drugs or medications have you been using? "Nothing"	How much? N/A	Time of use? N/A	Where were the drugs used? (Location) N/A
Date / Time of arrest: 02-08-10	Time DRE was notified: 2205	Evaluation start time: 2230	Evaluation completion time: 2335
Precinct/Station: North Precinct			
Officer's Signature:	DRE # 7883	Reviewed/approved by / date:	

Opinion of Evaluator: ☐ Rule Out ☐ Alcohol ■ CNS Stimulant ☐ Dissociative Anesthetic ☐ Inhalant ☐ Medical ☐ CNS Depressant ☐ Hallucinogen ☐ Narcotic Analgesic ☐ 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:** Hedlund's breath test was a 0.00%.

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 22 seconds. Walk & Turn: Suspect started too soon, lost his balance twice during the instructions, raised his arms for balance and made an abrupt quick turn. One Leg Stand: Suspect swayed, raised his arms, hopped and put his foot down once standing on the left foot and once while standing on the right foot. Finger to Nose: Suspect missed the tip of his nose on five of the six attempts.

8. **CLINICAL INDICATORS:** The suspect's pulse, blood pressure and temperature were above the normal ranges. His pupils were dilated in all three lighting levels and they reacted slowly to light.

9. **SIGNS OF INGESTION:** White powder residue was located in the suspect's left nostril.

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 urine sample.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Frank Barnes, Oklahoma City P.D.	DRE # 2894	Rolling Log # 10-08-02	**Session X - #2**
Recorder/Witness: Sgt. Charlie Phillips, Oklahoma City P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-22876
Arrestee's Name (Last, First, Middle): Kohlhepp, Kim J.	Date of Birth: 8/24/73	Sex: F	Race: W
Arresting Officer (Name, ID#): Officer David Steiner, OKC PD #8895			
Date Examined / Time /Location: 08/02/10 2315 Oklahoma Co. Jail	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 150024	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

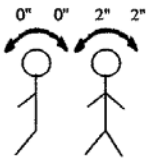
Miranda Warning Given: Given By: F. Barnes 2317	☒ Yes ☐ No	What have you eaten today? When? Hot dog 1pm	What have you been drinking? How much? "Nothing"	Time of last drink? N/A
Time now/ Actual: Midnight/2322	When did you last sleep? How long: Yesterday 4 hours	Are you sick or injured? ☐ Yes ☒ No	Are 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 "I don't do drugs"	Attitude: Cooperative, restless	Coordination: Poor, jittery, stumbling		
Speech: Very talkative, rapid	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 100 / 2328	Lack of Smooth Pursuit	No	No
2. 108 / 2341	Maximum Deviation	No	No
3. 104 / 2355	Angle of Onset	None	None

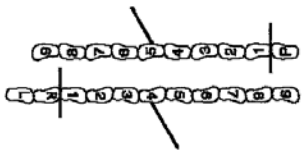
Convergence — Right eye, Left eye

34 ONE LEG STAND 35

Romberg Balance



Walk and Turn test

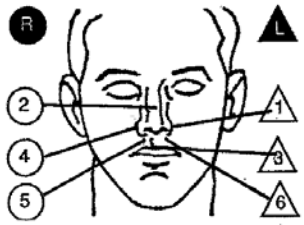


	1st Nine	2nd Nine
Cannot keep balance		
Starts too soon		
Stops walking		
Misses heel-toe		
Steps off line	✓	✓
Raises arms	✓✓	✓
Actual steps taken	9	9

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

Internal clock: 20 estimated as 30 seconds	Describe Turn: Spinning turn, quick movement	Cannot do test (explain): N/A	Type of footwear: Heels (removed)

Draw lines to spots touched



Eyelid tremors

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.5	9.0	6.0
Right Eye	6.5	9.0	6.0

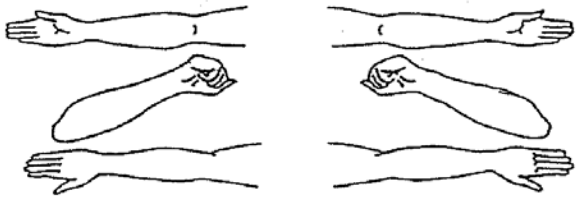
Nasal area: Red, ulcerated

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
144/104	99.8

Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "I don't use drugs anymore."	How much?	Time of use? Refused	Where were the drugs used? (Location) Refused

Date / Time of arrest: 08/02/10 2240	Time DRE was notified: 2305	Evaluation start time: 2315	Evaluation completion time: 08/03/10 0035	Precinct/Station:
Officer's Signature:	DRE # 2894	Reviewed/approved by / date:		

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Kohlhepp, Kim J.

1. **LOCATION:** The evaluation was conducted 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:** Kohlhepp's breath test was 0.00%.

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 20 seconds. Walk & Turn: Suspect stepped off the line twice, raised her arms for balance and turned using an abrupt spinning movement. One Leg Stand: Suspect swayed, raised her arms, hopped once when standing on the left foot, and put her foot down one time while standing on each foot. Finger to Nose: Suspect missed the tip of her nose on each attempt.

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.

Rev.10/10

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 and Ephedrine

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.

1 Hour

SESSION XI

PRACTICE: EYE EXAMINATIONS

SESSION XI PRACTICE: EYE EXAMINATIONS

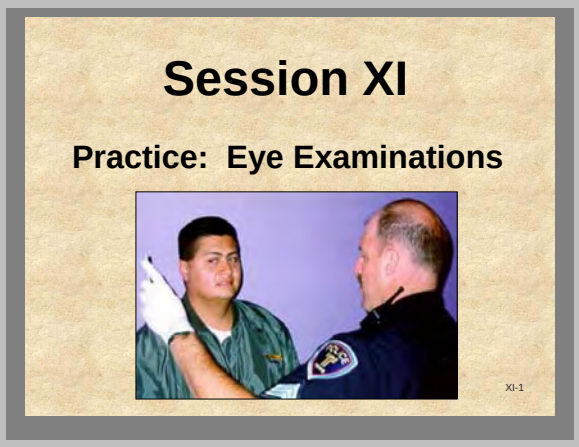
Upon successfully completing this session the student will be able to:

- 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.

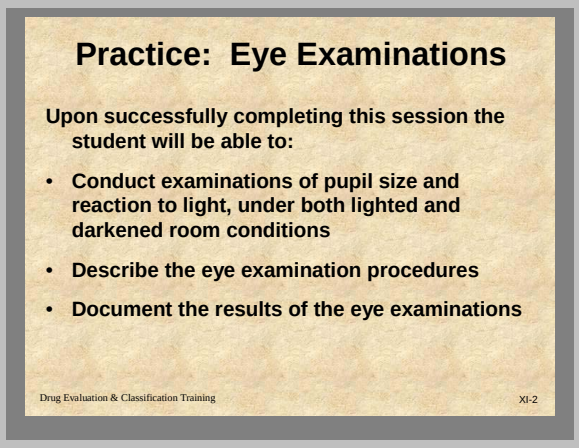
CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Procedures for this Session	▪ Instructor Led Presentations
B. Room Light Examinations	▪ Students' Hands-On Practice
C. Dark Room Examinations	▪ Instructor Led Coaching
D. Session Wrap-Up	▪ Student Led Coaching

I. PRACTICE: EYE EXAMINATIONS

Session 11-1: Practice: Eye Examinations



Session 11-2: Practice: Eye Examinations



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

A. Procedures for this Session

Team Assignments

- Participants will work in three or four member teams.
- Make team assignments.

- At any given time, one member of the team will be engaged in conducting and recording eye examinations of another member.

- The remaining member(s) will help coach and critique the student who is conducting the examinations.

    - Emphasize that students can help each other learn by pointing out errors of omission or commission.

Team Practice

- Participants will take turns serving as test administrator, test subject and coach.

- Teams initially will practice under lighted room conditions.

- Check pupil size under normal room light.

- Check reaction to light and pupil size using a penlight in a lighted room.

    - Clarification: students will shine a penlight directly into the subject's eye. Demonstrate this, using a student subject

- Teams subsequently will practice under darkened room conditions.

- Check pupil size in near total darkness.

- Check reaction to light and pupil size under direct light.

- Students will record their estimations using Eye Examinations Data Sheet.

    - Point out the copies of the Eye Examination Data Sheet in the Student's Manual.

Solicit students' questions concerning procedures for this practice session.

B. Room Light Examinations

Pupil Size Estimation

- Pupil size estimation, under room light.

- Pupil reaction and size estimation, under direct light.

Monitor teams and coach students as necessary and appropriate.

When the first student completes the two estimations, have the team members exchange roles. Continue this process.

Sequence of roles should be as follows:

- Test Administrator
- Test Subject
- Coach
- Test Administrator (continue cycle)

Terminate this segment after 20 minutes, or after each student has twice served as a test administrator (whichever comes first).

C. Dark Room Examinations

Pupil Size Estimation

- Pupil size estimation, under near total darkness.

- 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.

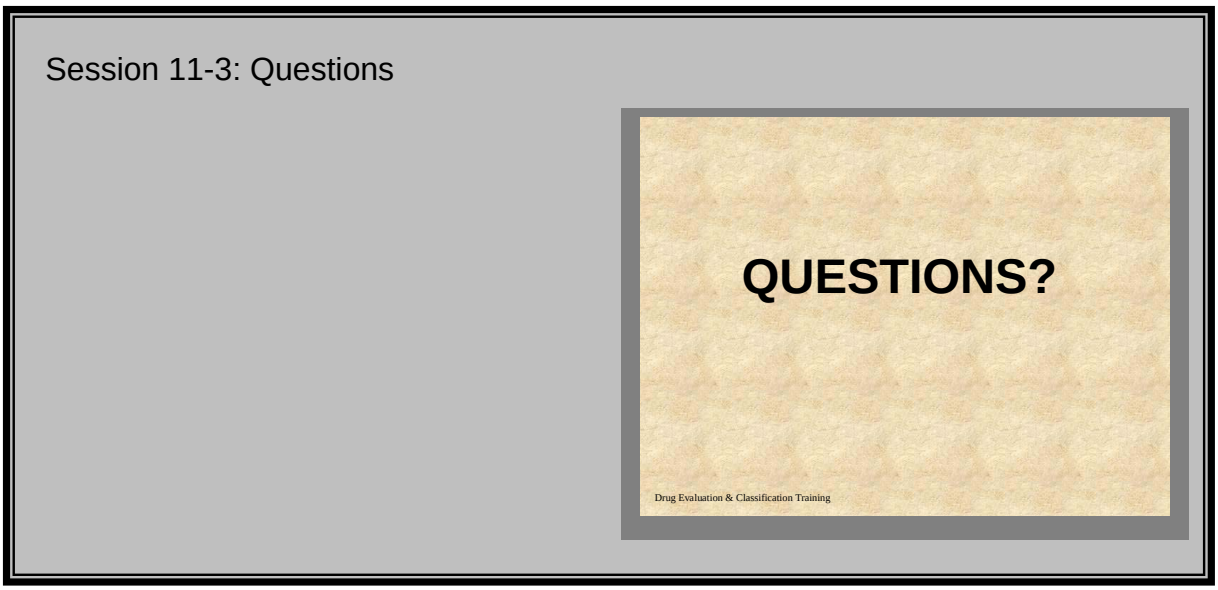
Sequence of roles should be as follows:

- Test Administrator
- Test Subject
- Coach
- Test Administrator (continue cycle)

Terminate this segment after 25 minutes, or after each student has twice served as a test administrator (whichever comes first).

D. Session Wrap-Up

- Offer appropriate comments and observations about the students' performance.



Solicit students' comments concerning the practice session.

1 Hour and 45 Minutes

SESSION XII

ALCOHOL WORKSHOP

SESSION XII ALCOHOL WORKSHOP

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

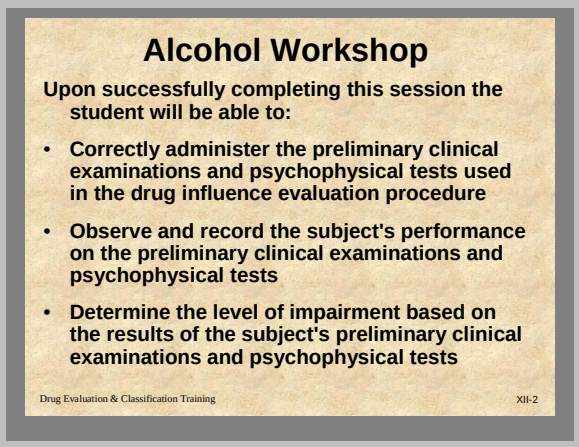
- Correctly administer the preliminary clinical examinations and psychophysical tests used in the drug influence evaluation procedure.
- Observe and record the subject's performance on the preliminary clinical examinations and psychophysical tests.
- Determine the level of impairment based on the results of the subject's preliminary clinical examinations and psychophysical tests.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Procedures	▪ Instructor Led Presentations
B. Hands-On Practice	▪ Student Led Practice
C. Session Wrap-Up	▪ Instructor Discussion

I. ALCOHOL WORKSHOP

Session 12-1: Alcohol Workshop

Session 12-2: Alcohol Workshop



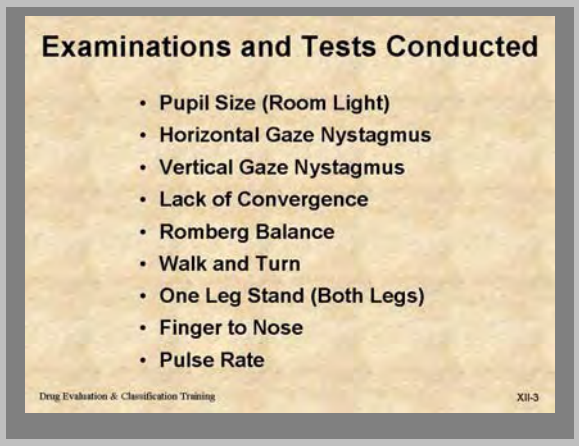
Briefly review the objectives, content and activities of this session.

A. Procedures

Students will work in three or four member teams during this session.

- Make team assignments.
- Each team will administer a battery of tests to each volunteer.

Session 12-3: Examinations and Tests Conducted



The preliminary clinical examinations and psychophysical tests include:

- Pupil Size Estimation (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 Rate

Point out that for the DEC drug influence evaluation, it is helpful to estimate angle of onset for HGN, and to relate it to BAC.

- 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.

For each volunteer, team members should perform the following duties:

- One team member will administer the tests to the volunteer.

- One team member will record the results on the report form.

- The other team member(s) will assist the test administrator in observing the volunteer's performance on the tests.

- Emphasize that team members will take turns performing the various duties, as they deal with the different volunteers.

Some volunteers will have BACs above 0.10, others will have lower BACs.

The following safety precautions will be strictly enforced:

- No weapons will be present.
- Volunteers will not be left unattended at any time.

Solicit students' questions concerning the procedures for the Alcohol Workshop.

B. Hands-On Practice

Test Administration

Test recording:

- Monitor teams as they test the volunteers.
- 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).

C. Session Wrap-Up

Feedback

Record teams' assessments of each volunteer's probable BAC status on the dry erase board or flip-chart (see next page for a sample dry erase board array).

Feedback of teams' assessments:

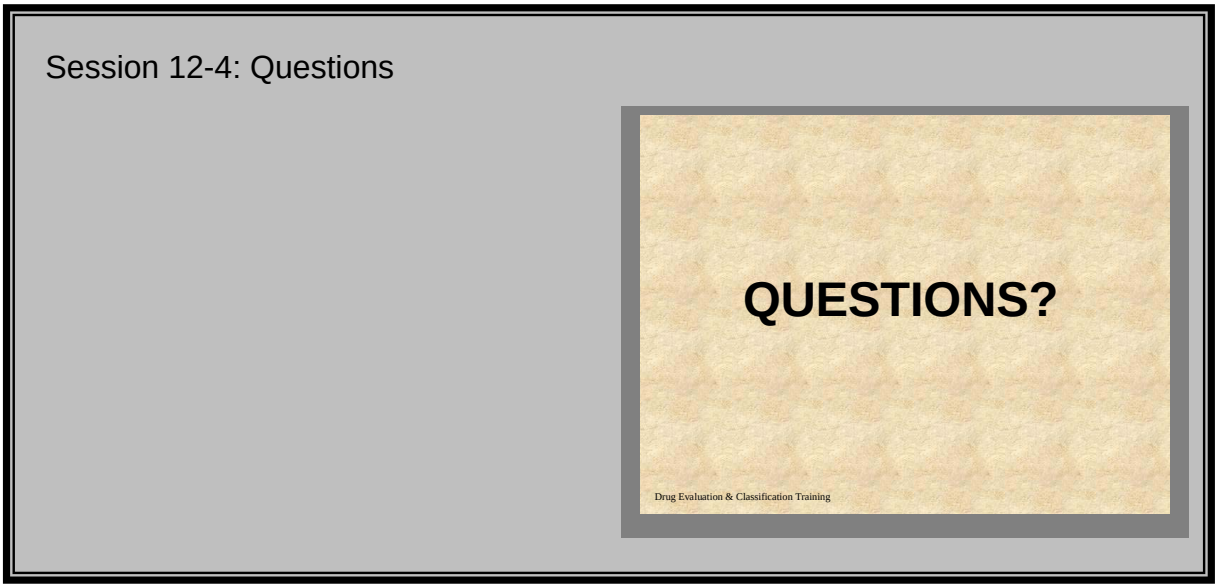
- Ask each team briefly to describe the evidence that led the members to their conclusions about a particular volunteer's BAC.

Record each volunteer's actual BAC on the dry erase board array.

Feedback of volunteer's BACs:

- 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.

Discussion



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")

30 Minutes

SESSION XIII

PHYSICIAN'S DESK REFERENCE (PDR) AND OTHER REFERENCE SOURCES

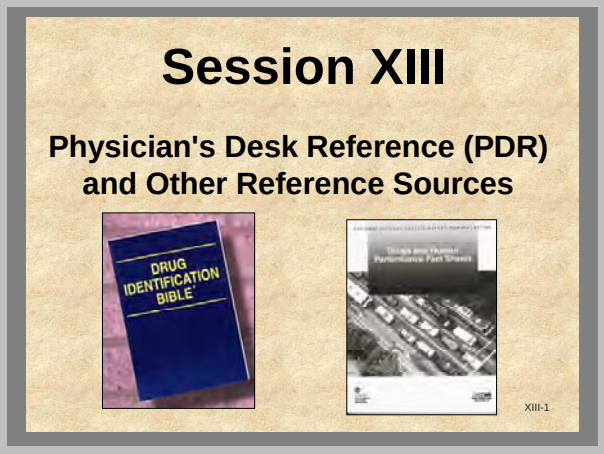
SESSION XIII PHYSICIAN'S DESK REFERENCE (PDR) AND OTHER REFERENCE SOURCES

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

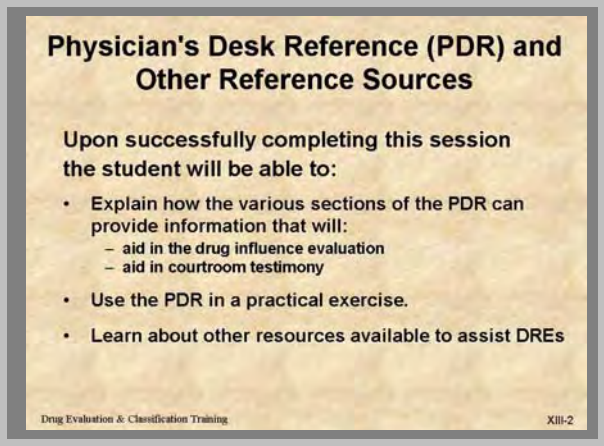
- Explain how the various sections of the PDR can provide information that will:
    - Aid in the drug influence evaluation;
    - Aid in courtroom testimony.
- Use the PDR in a practical exercise.
- Describe other references available to assist DREs.

I. PHYSICIAN'S DESK REFERENCE (PDR)

Session 13-1: Physician's Desk Reference (PDR) and Other Reference Sources



Session 13-2: Physician's Desk Reference (PDR) and Other Reference Sources



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

- 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.

A. Procedures

Due to the unique nature of this session, instructors teaching this session should strive to develop innovative and interactive creative learning activities.

PDR

- PDR is published annually.
- Many versions are published:
    - PDR for prescription drugs
    - PDR for non-prescription drugs
    - PDR for ophthalmology

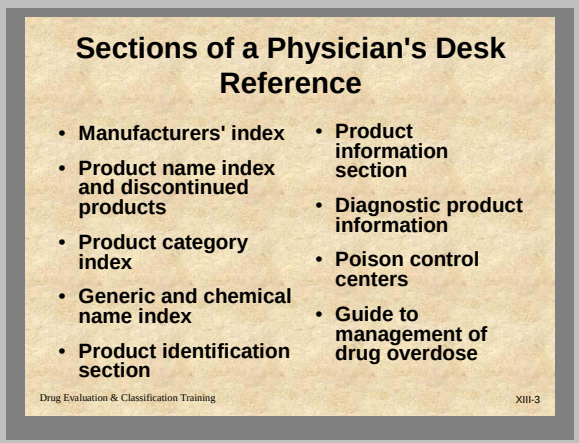
There are other PDR publications in addition to these.

- Exhibit copy of a PDR.

PDR supplements are published periodically as new products are introduced during the year.

- Function of the publisher is compilation, organization and distribution of information.
- Product descriptions are prepared by the manufacturer, and edited and approved by their respective medical directors.
- Additional information on the various drugs can be obtained from the manufacturer.

Session 13-3: Sections of a Physician's Desk Reference



Sections of a PDR

Point out that the sections are color coded for easy use.

- Manufacturers Index (Section 1).
    - List of manufacturers (with phone numbers) who have provided prescribing information.
- Product Name Index and Discontinued Products (Section 2).
    - Alphabetical listing of products available and a listing of discontinued products.
    - Newer editions of the PDR will have a merging of Sections 2 and 4.
- Product Category Index (Section 3).
    - Products listed according to appropriate category.
- Generic and Chemical Name Index (Section 4).
    - Products listed under generic and chemical name headings according to the principal ingredient(s).
- Product Identification Section (Section 5).
    - Point out that this section contains actual size, full color reproductions.
- 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.
    - It also includes common names, generic compositions, or chemical names.
- Diagnostic Product Information (Section 7).
    - Diagnostic product descriptions.
- Poison Control Centers.
    - List of centers and emergency telephone numbers.
- Guide to Management of Drug Overdose.
    - Information concerning drug over dosage.

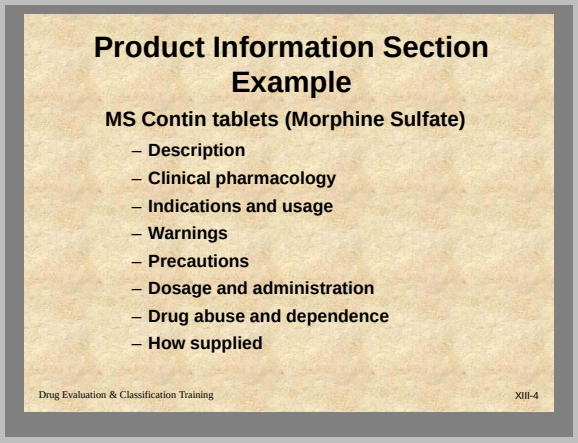
Use of the PDR in DEC Program

- To identify prescription drugs.
    - This information is contained in the product identification section.
- To identify the effects of prescription drugs for comparison with observed effects.
    - This information is contained in the product information section.

How to use the PDR

- Identification of an unknown product.
    - Demonstrate how to identify a tablet, capsule, etc. using the product identification section.
- Identification of drug pharmacology.
    - Demonstrate how to use the product identification section.

Session 13-4: Product Information Section Example



    - Example: MS Contin tablets (Morphine Sulfate).

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.

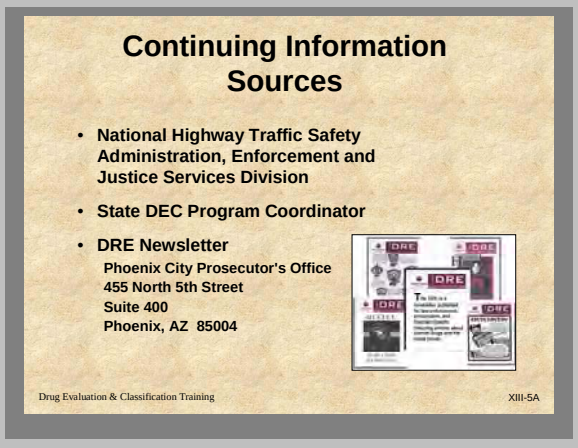
B. Practical Exercise

Assign students to small groups and provide photographs or examples 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.

- Small group exercise.
  - Each group must have a PDR.
- Group reports.

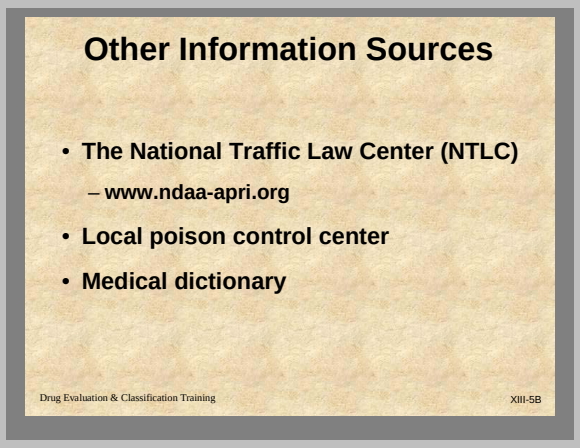
C. Other Resources

Session 13-5A: Continuing Information Sources



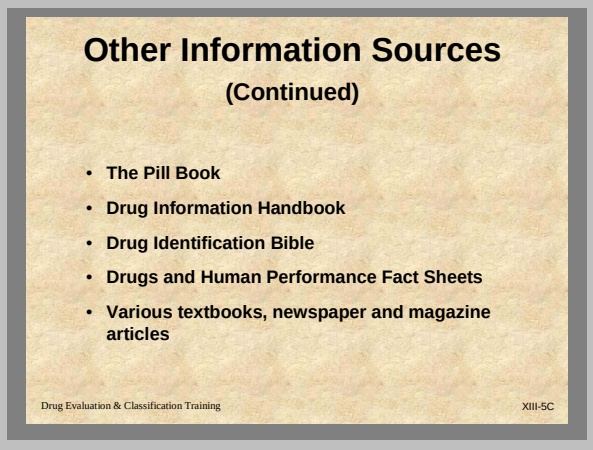
- National Highway Safety Administration, Enforcement and Justice Services Division.
- State Drug Evaluation and Classification Program Coordinator.
- "The DRE" Newsletter.
  - Published by the Phoenix City Prosecutor's Office, Phoenix, Arizona.

Session 13-5B: Other Information Sources



- The National Traffic Law Center (NTLC).
  - NTLC is part of the American Prosecutors Research Institute (APRI).
- Local Poison Control Center.
- Medical Dictionaries.

Session 13-5C: Other Information Sources (continued)



- The Pill Book, The Drug Identification Bible, and other consumer's guides to drugs.
- Drugs and Human Performance Fact Sheets

- Produced by U.S. DOT-NHTSA, Report No. DOT 809 725, March 2004.

- Newspaper and magazine articles on drugs and drug impaired driving, including counter-culture magazines such as "High Times."

- Software programs such as Pharmacists, Body Works, Mosbey's Medical Dictionary and other programs are available on disks and CDs.

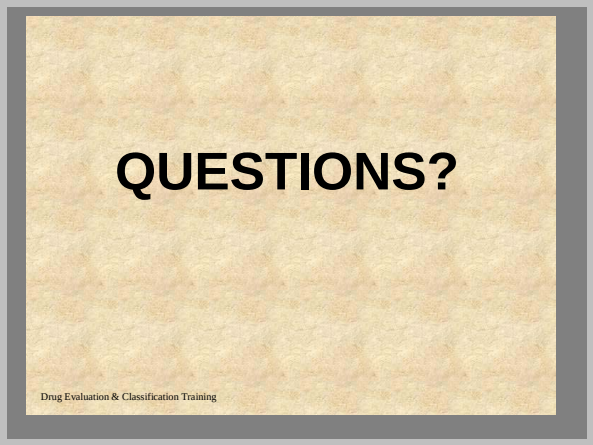
- Various resources are available through online services and the Internet.

  - Point out that the IACP Drug Evaluation and Classification Program website is www.decp.org

- Other texts.

  - Discuss some other useful and reliable texts known to you.

Session 13-6: Questions



1 Hour and 45 Minutes

SESSION XIV

HALLUCINOGENS

SESSION XIV HALLUCINOGENS

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

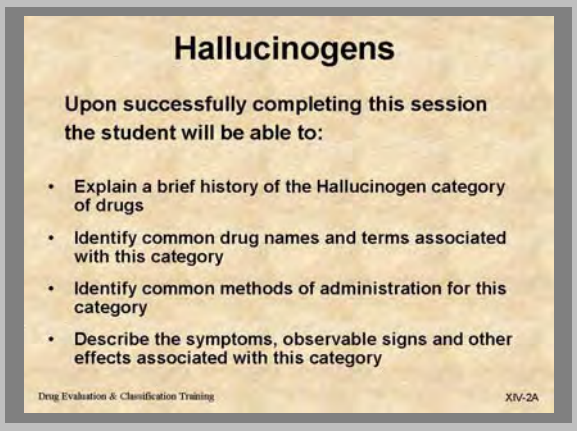
- Explain a brief history of the Hallucinogen category of drugs.
- Identify common drug names and terms associated with this category.
- Identify common methods of administration for this category.
- Describe the symptoms, observable signs and other effects associated with this category.
- Describe typical 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	▪ Instructor-Led Presentations
B. Possible Effects	▪ Review of Drug Evaluation and Classification Exemplars
C. Onset and Duration Effects	▪ Reading Assignments
D. Overdose Signs and Symptoms	▪ Video Presentations
E. Expected Results of the Evaluation	▪ Slide Presentations

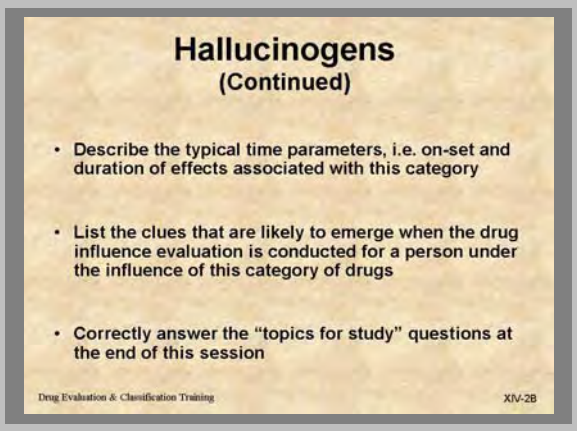
I. HALLUCINOGENS

Session 14-1: Session 14

Session 14-2A: Hallucinogens



Session 14-2B: Hallucinogens



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

A. Overview of the Category

Hallucinogens are drugs that affect a person's perceptions, sensations, thinking, self awareness and emotions.

- The word "Hallucinogen" means something that causes hallucinations.
    - Definition from <u>The Random House College Dictionary</u> (Revised Edition, 1980)

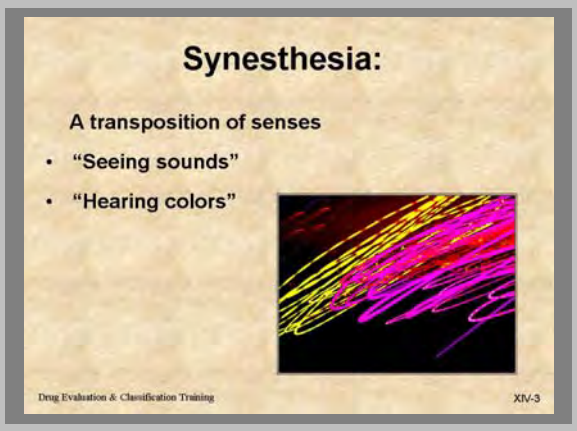
A hallucination is a sensory experience of something that does not exist outside the mind.

- Seeing, hearing, smelling, tasting or feeling something that isn't really there.
- Having distorted sensory perceptions, so that things look, sound, smell, etc. differently than they really are.

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.

- But emphasize that the fact that the user knows the hallucinations aren't real doesn't make those hallucinations any less dangerous if they occur while driving.

Session 14-3: Synesthesia



Synesthesia

One common type of hallucination produced by these drugs is called Synesthesia, which is a sensory perception disorder, in which an input via one sense is perceived by the brain as an input via another sense. In its simplest terms, it is a transposition of senses.

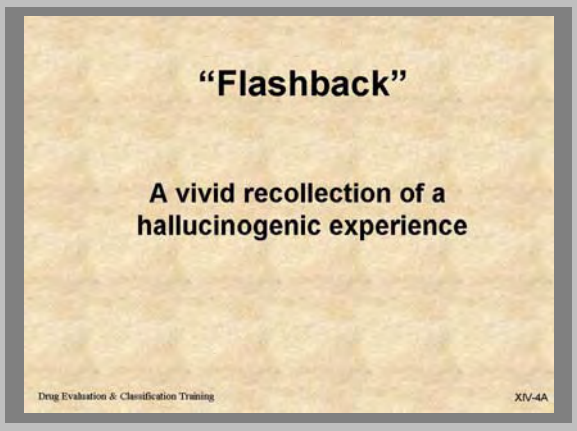
- Note: Synesthesia may occur naturally in an insignificant percentage of the population.
- Examples: The user may "see a flash of color, or some other sight, when the telephone rings."
- Sounds for example, may be transposed into sights.
- Sights may be transposed into odors.
- The user may "smell" a particular fragrance when he or she looks at something painted yellow.

The illusions and distorted perceptions produced by hallucinogenic drugs may be very alarming, even terrifying.

- They may produce panic and uncontrolled excitement.
- Point out that the expression "bad trip" refers principally to these panic filled reactions to Hallucinogens.
- The user may be unable to cope with the terror, and may attempt to flee wildly.

- A user who is emotionally or mentally unstable may become psychotic in response to this frightening experience.

Session 14-4A: Flashback



Flashback

A terrifying "bad trip" sometimes may be re-experienced as a flashback.

- In simple terms, a flashback is a vivid recollection of a portion of a hallucinogenic experience.
- A flashback does not occur because of a residual quantity of drug in the user's body.
- Instead, a flashback essentially is a very intense daydream.
- But point out that subsequent use of the drug may precipitate a flashback, by causing the user to re-experience the frightening illusions of the previous "bad trip."

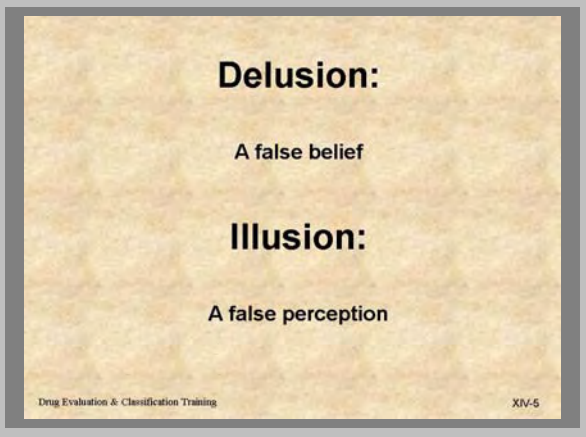
Session 14-4B: Types of Flashbacks

Types of Flashback

There are three types of flashback:

- Emotional: feelings of panic, fear, etc; the sensations of a "bad trip."
- Somatic: Altered body sensations, tremors, weakness, dizziness, crawly, tingly feelings on the skin.
- Perceptual: Distortions of vision, hearing, smell and/or other senses.
- These distortions are "re-runs" of the original "trip."

Session 14-5: Delusion/Illusion

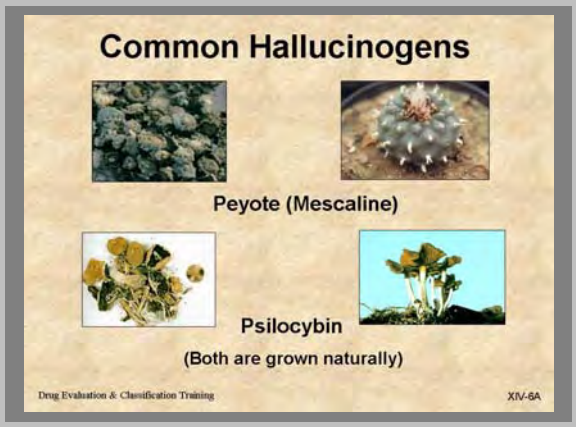


Illusion and Delusion

Remember that hallucinogens produce illusions, delusions, or both.

- A delusion is a false belief.
- Example of a delusion: "I am an Elephant."
- An illusion is a false perception, i.e. a misrepresentation of what the senses are receiving.
- Example of an illusion: "I see an Elephant."

Session 14-6A: Common Hallucinogens



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.
- Point out some Hallucinogens may create a psychotomimetic response in the user, meaning that they literally appear to have psychosis.

Some Hallucinogens come from natural sources, while others are synthetically manufactured.

Instructor, for your information: Other naturally occurring Hallucinogens include nutmeg, jimson weed, morning glory seeds, salvia divinorum, and bufotenine, a substance found in the glands of certain toads.

- Note: Some regional or local Hallucinogens may be discussed in more detail.
- Peyote, Psilocybin and Salvia Divinorum are examples of naturally occurring Hallucinogens.
- LSD, MDA, MDMA, DMT, STP, TMA and 2CB are examples of synthetically manufactured Hallucinogens.
- LSD: Lysergic Acid Diethylamide.
- Point out that STP is also known as DOM (2, 5-dimethoxy-4-methylamphetamine). STP is an abbreviation for "Serenity, Tranquility and Peace."

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.

- TMA: Trimethoxyamphetamine
- DMT: Dimethyltryptamine
- MDMA is an abbreviation for 3,4-Methylenedioxymethamphetamine and is commonly referred to as "Ecstasy." It is a hallucinogen that also acts as a stimulant. It produces an energizing effect, as well as distortions in time and perception and enhances enjoyment from tactile experiences.
- MDA is an abbreviation for 3,4-Methylenedioxyamphetamine. It is normally produced as a clear liquid, or as a white powder in capsule or tablet form.
- Peyote is a small, spineless cactus.

If available, show slides of the peyote cactus and /or other peyote examples.

- The active, hallucinogenic ingredient in peyote is Mescaline.

- Mescaline is a chemical relative of adrenaline. Effects may be similar to those that would result from a massive rush of adrenalin.

- Mescaline was first isolated from Peyote in 1856. It was named after the Mescalero Apaches.

- Peyote is used legally in religious ceremonies of the Native American Church.

- 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. Source: Drug Identification Bible, 2004/2005 Edition.

- These mushrooms also have been used in Native American religious ceremonies for thousands of years.

- An unstable derivative of Psilocybin, called Psilocin, 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.

If available, show slides of Psilocybin Mushrooms.

- Salvia Dinvinorum, also known as S. divinorum or Salvia, is a naturally occurring Hallucinogen.

- Salvia divinorum is a perennial herb in the mint family native to certain areas of Mexico. The plant, which can grow to over three feet in height, has large green leaves, hollow square stems and white flowers with purple calyces, can also be grown successfully outside of this region.

- Salvia divinorum has been used by the Mazatec Indians for its ritual divination and healing. The active constituent of Salvia divinorum has been identified as Salvinorin A.

- It was not until August 2002 that researchers discovered that Salvia divinorum acts at the kappa opiate receptor (KOR) site, where much of human reception is regulated.

- According to a National Survey on Drug Use and Health Report published by SAMHSA in February 2008, it is estimated that 1.8 million persons aged 12 or older used Salvia divinorum in their lifetime.

- There are several methods of ingesting Salvia with varying durations of hallucinogenic effects:

  - Dried leaves of Salvia can be smoked like marijuana, in a bong, pipe or as a joint, with the effects lasting up to 15-30 minutes.

  - Fresh leaves can be chewed as quid. The leaves of Salvia produce extractions of Salvinorin A before the leaves are removed from the mouth. Effects from chewing Salvia can last up to one hour.

  - Salvinorin A can also be vaporized and inhaled by heating the leaves in a pipe of tin foil and the vapors inhaled through a glass pipe.

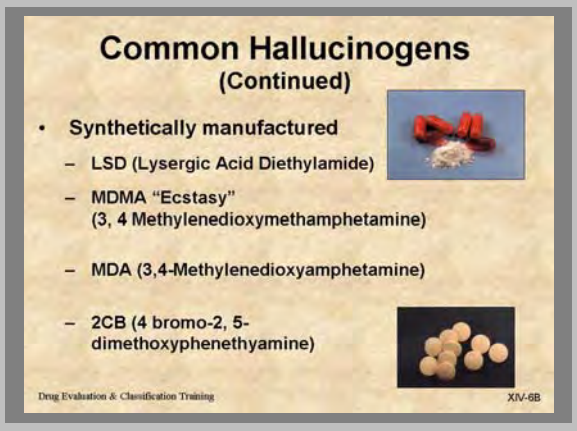
- Effects of Salvia Divinorum include: intense hallucinations; feelings of floating through space or flying; twisting and spinning. Physical effects include dizziness; nausea; lack of coordination; slurred speech, confused sentence patterns; and chills.

- Some common street names for Salvia Divinorum include: Salvia, Sally D, Magic Mint, Maria Pastora, and Diviner's Sage.

- Salvia is not listed under the Controlled Substance Act (CSA) or approved for medical use.

  - Source: DEA Office of National Control Policy Bulletin, November 2008.

Session 14-6B: Common Hallucinogens



LSD is perhaps the most famous of the synthetically manufactured Hallucinogens.

If available, show slides of various forms of LSD.

- "LSD" is an abbreviation of Lysergic Acid Diethylamide.
- It was first produced in 1938, although its hallucinogenic properties were not discovered until 1943.
- LSD was used in psychotherapy during the 1940's and early 1950's.
    - Example: it was occasionally used in the treatment of alcoholism.
- 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.

- In the Middle Ages, when people accidentally ate this fungus, their resulting bizarre behavior was thought to stem from possession by the Devil.
- Ergot is still used medically to treat migraine headaches.
- Sandoz Laboratories markets a combination of caffeine and Ergot called Cafergot.

2CB (4-Bromo-2, 5-Dimethoxyphenethylamine) is a popular drug first synthesized in 1974.

- 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."
- 2CB is a white powder usually found in pressed tablets or gel caps.
- 2CB is sometimes referred to as "Venus"; "Nexus"; and "bromo-mescaline."

MDA, STP, and TMA are synthetically manufactured hallucinogens that sometimes are called "Psychedelic Amphetamines."

- They are chemically related to Amphetamines and produce many effects similar to those of CNS Stimulants.
- They are also chemically related to Mescaline.
- MDA is an abbreviation for 3, 4-Methylenedioxyamphetamine.
- Among users, MDA sometimes is referred to as the "Mellow Drug of America."
- TMA is an abbreviation for 3, 4, 5-Trimethoxyamphetamine.
- Point out that there are many more Hallucinogens beyond those listed in this session.

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.

Methods of Ingestion of Hallucinogens

- The most common method of ingesting Hallucinogens is orally.
- Some Hallucinogens can also be smoked.
- Point out that some Hallucinogens such as LSD can be absorbed through the skin. Officers should make it a practice to wear protective gloves when handling any suspected drugs.
- Some users inject LSD.
- MDA can also be insufflated, or "snorted."

Solicit students' comments or questions on this overview of Hallucinogens.

B. Possible Effects

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.

Generally, Hallucinogens intensify whatever mood the user is in at the time the drug is taken.

- If the user is depressed, the drug will deepen the depression.
- If the user is feeling pleasant, the drug will heighten that feeling.
- 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.

However, Hallucinogens also often uncover mental or emotional flaws that the user was unaware of possessing.

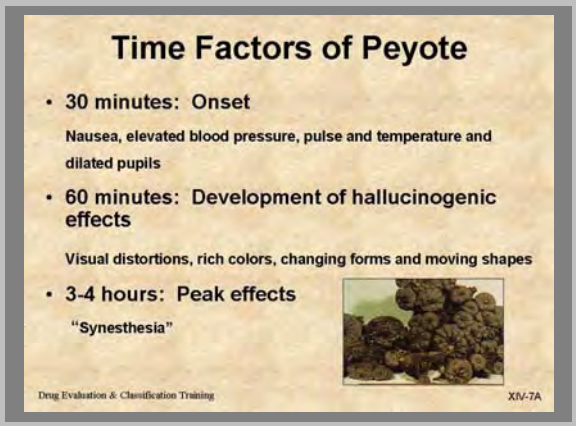
Therefore, many users who expect a positive experience with the drug will encounter instead the panic of a "bad trip."

The most common effect of the Hallucinogen is hallucination: the distorted perception of reality, often with a mixing of senses that makes it virtually impossible for the drug influenced user to function in the real world.

Solicit students' comments or questions on this overview of Hallucinogens.

C. Onset and Duration of Effects

Session 10-7A: Time Factors of Peyote



Time Factors of Peyote

The time parameters associated with Hallucinogens vary from drug to drug.

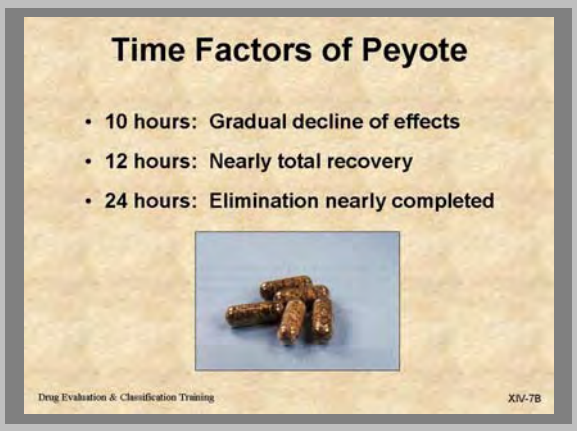
The effects of Peyote (Mescaline) begin to be felt within approximately one-half hour after eating the cactus "buttons."

- 30 minutes: nausea, possibly leading to vomiting; mild rise in blood pressure, pulse, temperature and heart rate; pupils dilate.

- One hour: sensory changes begin; visual distortions accompanied by rich colors; objects take on new forms and begin to move; shapes "come alive."

- 3 – 4 hours: sensory changes reach their peak; synesthesia (mixing of senses) commonly occurs.

Session 14-7B: Time Factors of Peyote

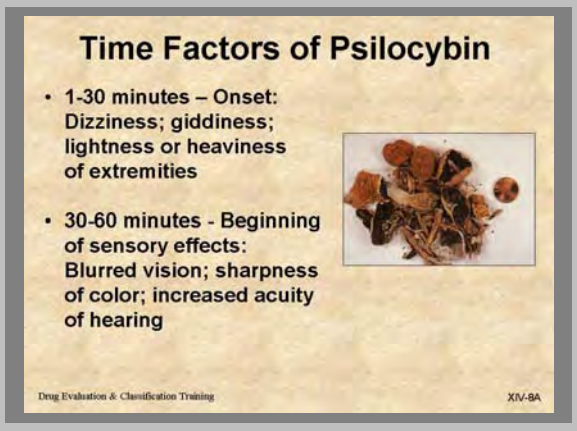


- 10 hours: gradual decline in effects.

- 12 hours: nearly total recovery from effects.

- 24 hours: approximately 87% of the Mescaline has been excreted from the body.

Session 14-8A: Time Factors of Psilocybin



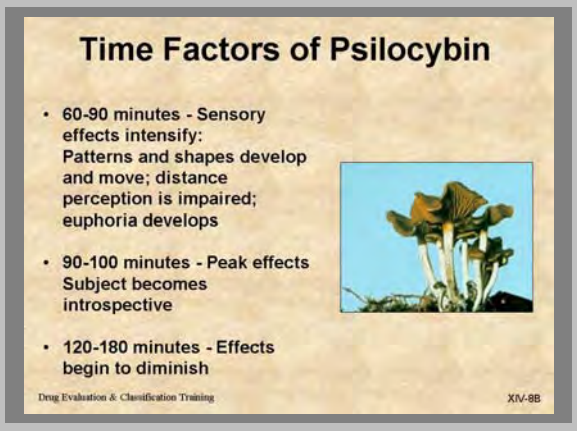
Time Factors of Psilocybin

Psilocybin also begins to exert its effects within one-half hour.

- 1 – 30 minutes: dizziness, light headed feeling, giddiness; the extremities (hands, feet, etc.) may feel very light or very heavy.

- 30 – 60 minutes: vision blurs; colors become brighter, leave longer lasting after images; objects take on sharp visual definition; hearing becomes more acute.

Session 14-8B: Time Factors of Psilocybin

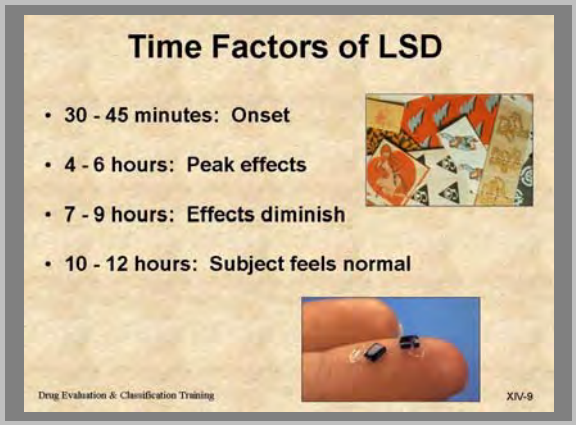


- 60 – 90 minutes: color patterns and shapes start to develop; the surfaces of objects appear to develop waves and wave-like patterns; distance perception becomes impaired; feelings of euphoria develop.

- 90 – 100 minutes: body sensations increase, along with mental perceptions; user commonly becomes introspective.

- 120 – 180 minutes: effects start to diminish.

Session 14-9: Time Factors of LSD



LSD's effects begin to be felt within 30 – 45 minutes.

- 30 – 45 minutes: blood pressure, pulse and temperature rise; pupils dilate; hair starts to stand on end (Piloerection); nausea, dizziness and headache development.

- 4 – 6 hours: effects reach their peak.

- 7 – 9 hours: effects diminish.

- 10 – 12 hours: user feels normal.

MDMA's effects usually begin within several minutes to a half hour if taken orally.

- Psychological effects include confusion, depression, anxiety and paranoia.

- The duration effects can last from 1 – 12 hours depending on dosage.

2CB's effects are dose related.

- Lower doses (5-15mg) produces enhanced sensual sensations and feelings of being "in one's body."

- At higher doses (15-30mg) it produces intense visual effects that includes moving objects with "trails" behind them and colors appearing from nowhere.

Onset and duration of effects of other Hallucinogens vary widely from about two hours to about 24 hours.

D. Overdose Signs and Symptoms

The most common danger of an overdose of Hallucinogen is an intense "bad trip," which can result in severe and sometimes permanent damage.

- It is unlikely that other Hallucinogens would directly result in death from overdoses.

- However, an overdose can be extremely dangerous and indirectly result in death.

- The extreme panic and agitation of a "bad trip" have been known to result in suicide, or in accidental death as the user attempts to flee the hallucinations.

- Sometimes Hallucinogens induce a perception of invulnerability in the user, leading to bizarre and very dangerous behavior, and death.

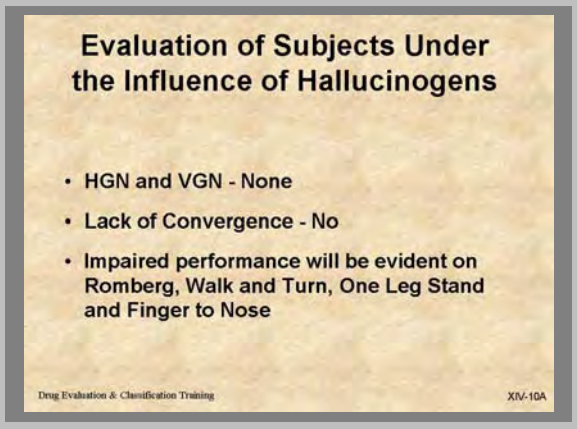
- Example: at least one LSD user was killed when he attempted to stop a train. Others have died from jumping off buildings believing they can fly.

Some evidence 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.

E. Expected Results of the Evaluation

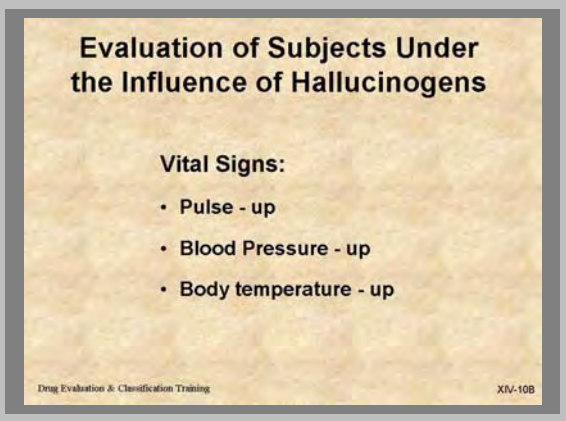
Session 14-10A: Evaluation of Subjects Under the Influence…



Observable Evidence of Impairment

- 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.
- Neither Horizontal Gaze nor Vertical Gaze Nystagmus will be present.
- Lack of Convergence will not be evident.
- Performance on the Romberg balance test will be impaired, particularly in the subject's estimation of the passage of 30 seconds.
- 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.
- 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.

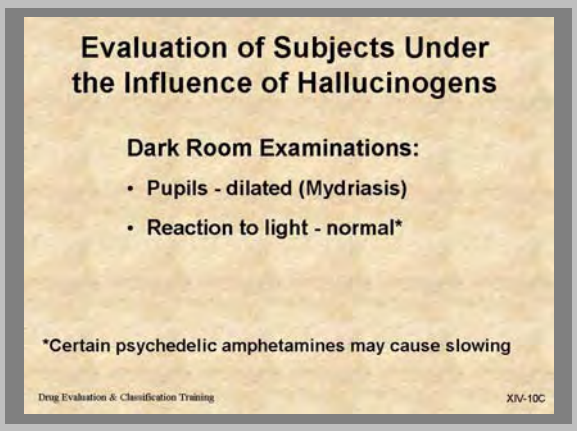
Session 14-10B: Evaluation of Subjects Under the Influence…



Vital Signs

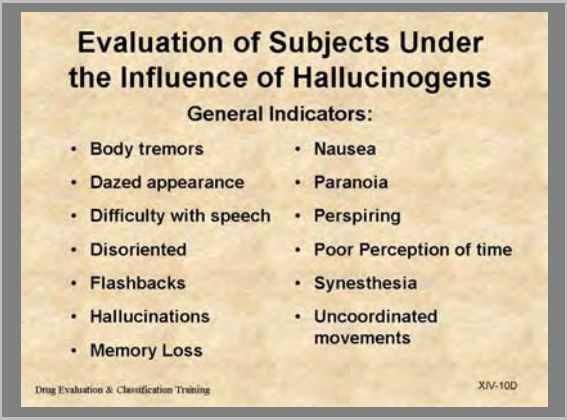
- Pulse will generally be up
- Blood pressure generally will be elevated
- Body temperature generally will be up

Session 14-10C: Evaluation of Subjects Under the Influence…



- Pupils generally will be dilated
- Reaction to light will usually be normal. Certain Psychedelic Amphetamines may cause slowing of the pupil's reaction to light.

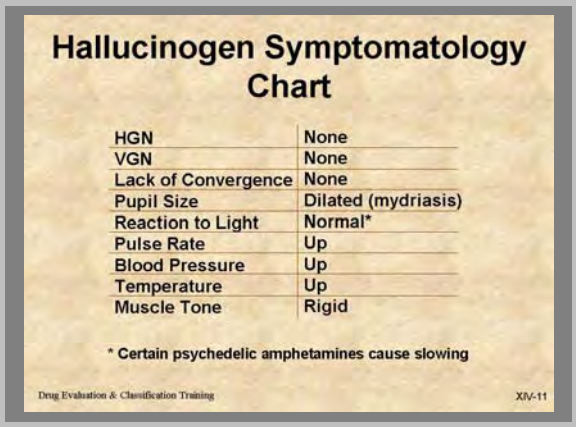
Session 14-10D: Evaluation of Subjects Under the Influence…



General Indicators

- body tremors
- dazed appearance
- difficulty with speech
- disoriented
- flashbacks
- hallucinations
- memory loss
- nausea
- paranoia
- perspiring
- piloerection (LSD)
- poor perception of time and distance
- synesthesia
- uncoordinated

Session 14-11: Hallucinogen Symptomatology Chart



Demonstrations

Video Demonstrations.

Show video of subject(s) under the influence of Hallucinogens. Relate behavior and observations to the Symptomatology Chart.

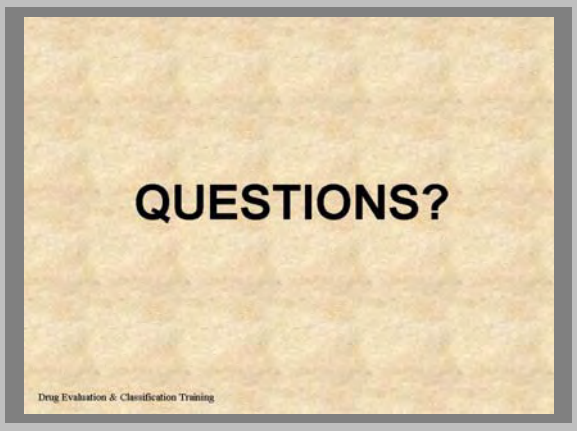
Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved narrative report. The actual narrative report submitted by DREs will be more detailed.

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.

Session 14-12: Questions



Solicit students' questions or comments concerning expected results of the evaluation of subjects under the influence of Hallucinogens.

DRUG INFLUENCE EVALUATION

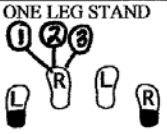
Evaluator: Sgt. Barry Dixson, Chaves Co.	DRE # 8744	Rolling Log # 10-07-04	**Session XIV #1**
Recorder/Witness: Tpr. Michael Champion	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-07-1145
Arrestee's Name (Last, First, Middle): Hoeckle, Rebecca S.	Date of Birth: 9/23/62	Sex: F	Race: I
Arresting Officer (Name, ID#): Tpr. Michael Champion, New Mexico SP #3238			
Date Examined / Time /Location: 07/29/10 2030 Chaves Co. Jail	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 13340	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: Given By: Tpr. Champion	☒ Yes ☐ No	What have you eaten today? When? "Nothing, I'm fasting"	What have you been drinking? How much? "I don't drink"	Time of last drink? N/A
Time now/ Actual: 7 pm / 2040	When did you last sleep? How long: Last night 6-7 hours	Are you sick or injured? ☒ Yes ☐ No Upset 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: Withdrawn, distracted	Coordination: Very poor, difficulty standing		
Speech: Rapid, stuttering	Breath Odor: Sour, rancid	Face: Flushed		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 104 / 2040	Lack of Smooth Pursuit	No	No
2. 112 / 2057	Maximum Deviation	No	No
3. 104 / 2112	Angle of Onset	None	None

Convergence: Right eye / Left eye

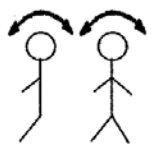
3 ONE LEG STAND



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

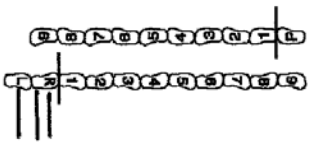
Test stopped for safety reasons

Romberg Balance



Unable to stand

Walk and Turn test

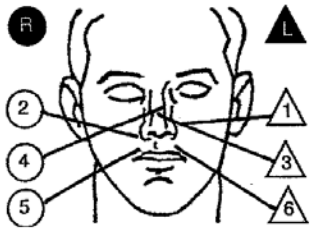


Test stopped

	1st Nine	2nd Nine
Cannot keep balance	✓	✓ ✓
Starts too soon		
Stops walking		
Misses heel-toe		
Steps off line		
Raises arms		
Actual steps taken		

Internal clock: N/A estimated as 30 seconds	Describe Turn: N/A	Cannot do test (explain): Test stopped for safety reasons	Type of footwear: Leather sandals

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	7.0	8.5	6.5
Right Eye	7.0	8.5	6.5

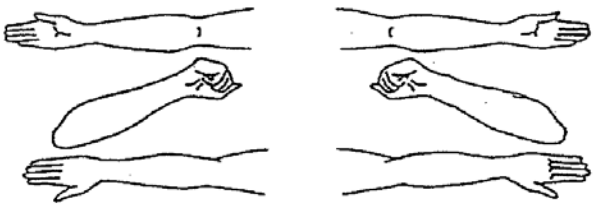
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure: 148/104	Temperature: 100.0			
Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid Comments: Rigidity in arms				
What drugs or medications have you been using? "My medium doesn't permit drugs"	How much? N/A		Time of use? N/A	Where were the drugs used? (Location) N/A
Date / Time of arrest: 07/29/10 1930	Time DRE was notified: 2010	Evaluation start time: 2030	Evaluation completion time: 2135	Precinct/Station:
Officer's Signature:	DRE # 8744	Reviewed/approved by / date:		

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect: Hoeckle, Rebecca S.

1. LOCATION: The evaluation took place at the Chaves County Jail.

2. WITNESSES: The arresting officer, Trooper Michael Champion of the New Mexico State Police witnessed and recorded the evaluation.

3. BREATH ALCOHOL TEST: Hoeckle's breath test was a 0.00%.

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 the 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 two of the lighting levels. 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:

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DRUG INFLUENCE EVALUATION

Evaluator: Sergeant Allan Kolak, Coral Gables P.D.	DRE #: 007401	Rolling Log #: 05-209	**Session XIV #2**
Recorder/Witness: Kyle Clark, IPTM	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 04-DRE-0123
Arrestee's Name (Last, First, Middle): Warburton, Cindy T.	Date of Birth: 7/18/82	Sex: F	Race: W
Arresting Officer (Name, ID#): Deputy Darrel Kehne, Collier Co. S.O.			
Date Examined / Time /Location: 05/07/10, 2300 Naples Intake Center	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 13465	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐
Miranda Warning Given: Given By: Dpty. Kehne	☒ Yes ☐ No	What have you eaten today? When? Spaghetti lunch	What have you been drinking? How much? Nothing
Time of last drink? N/A			
Time now/ Actual: 7:00 PM/2310	When did you last sleep? How long: Yesterday 6 hrs.	Are you sick or injured? ☐ Yes ☒ No "I feel hot."	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: Distracted, paranoid	Coordination: Poor, staggering	
Speech: Rambling, incoherent at times	Breath Odor: Normal	Face: Perspiring	
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy

Pulse and time

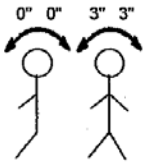
1. 112 / 2314
2. 116 / 2325
3. 116 / 2340

HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	No	No
Maximum Deviation	No	No
Angle of Onset	None	None

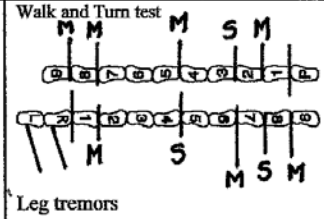
Convergence (Right eye, Left eye)

18 ONE LEG STAND 31

Romberg Balance



Walk and Turn test



Leg tremors

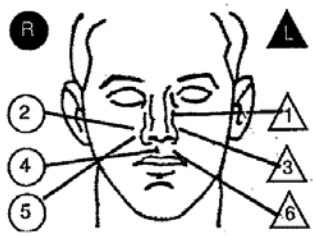
	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon	✓	
Stops walking	✓✓	✓
Misses heel-toe	✓✓✓	✓✓✓✓
Steps off line		
Raises arms	Constant	Constant
Actual steps taken	9	8

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

Leg tremors

Internal clock: 10 estimated as 30 seconds	Describe Turn: Lost balance, stumbled, nearly fell	Cannot do test (explain): N/A
Type of footwear: Sandals		

Draw lines to spots touched



Opened her eyes.

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.0	8.5	5.5
Right Eye	6.0	8.5	5.5

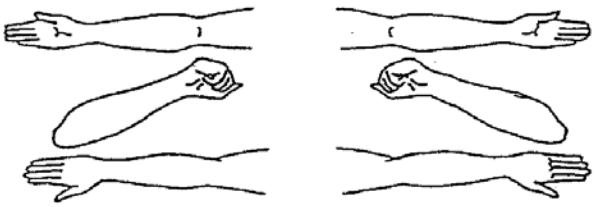
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure: 150/102	Temperature: 99.8		
Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid			
Comments:			
What drugs or medications have you been using? Nothing	How much? N/A	Time of use? N/A	Where were the drugs used? (Location) No answer
Date / Time of arrest: 05/07/10 2230	Time DRE was notified: 2240	Evaluation start time: 2300	Evaluation completion time: 2355
Precinct/Station: Traffic			
Officer's Signature:	DRE # 7401	Reviewed/approved by / date:	

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Warburton, Cindy T.

1. **LOCATION:** The evaluation was conducted at the Naples Jail Center.

2. **WITNESSES:** DRE State Coordinator, Kyle Clark witnessed and recorded the evaluation.

3. **BREATH ALCOHOL TEST:** Warburton's breath test was 0.00%.

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 patrol car 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 from 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, 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 observed.

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.

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DRUG INFLUENCE EVALUATION

Evaluator	DRE #	Rolling Log #	Session XIV #3
Officer David Rencken, Tuscon P.D.	005308	2010-003	
Recorder/Witness: Tim Gaffney, Phoenix P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-000128

Arrestee's Name (Last, First, Middle)	Date of Birth	Sex	Race	Arresting Officer (Name, ID#)
Buchanan, Lew B.	6/19/76	M	B	Officer Terry McCarthy, Tucson P.D. #8846

Date Examined / Time /Location	Breath Results:	Test Refused ☐	Chemical Test: Urine ☐ Blood ☒
01-25-10 0115 Central Testing	Results: 0.02	Instrument #: 10234	Test or tests refused ☐

Miranda Warning Given	☒ Yes ☐ No	What have you eaten today? When?	What have you been drinking? How much?	Time of last drink?
Given By: D. Gregory		Pizza about 6pm	Beer Two	8pm

Time now/ Actual	When did you last sleep? How long	Are you sick or injured?	Are you diabetic or epileptic?
10 pm / 0125	Last night 3 hrs.	☒ Yes ☐ No I might throw up	☐ 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	Withdrawn/cooperative	Very poor - staggering

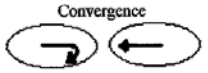
Speech: Difficulty in speaking, rambling	Breath Odor: Normal	Face: Dazed, perspiring heavily

Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☐ Bloodshot ☒ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal

Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy

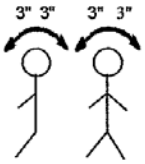
Pulse and time	HGN	Left Eye	Right Eye
1. 116 / 0130	Lack of Smooth Pursuit	No	No
2. 112 / 0147	Maximum Deviation	No	No
3. 104 / 0200	Angle of Onset	None	None

Convergence



4 ONE LEG STAND

Romberg Balance



Walk and Turn test

Test stopped for safety reasons- could not maintain balance

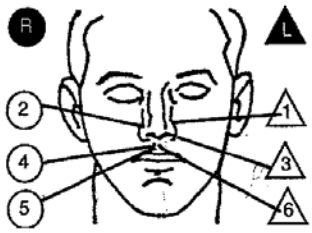
	1st Nine	2nd Nine
Cannot keep balance	✓✓✓	
Starts too soon		
Stops walking		
Misses heel-toe		
Steps off line		
Raises arms		
Actual steps taken		

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

Stopped test for safety reasons

Internal clock	Describe Turn	Cannot do test (explain)	Type of footwear:
35 estimated as 30 seconds	N/A	Stepped off line 3 times during instruction	Running shoes

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.5	9.0	6.0
Right Eye	6.5	9.0	6.0

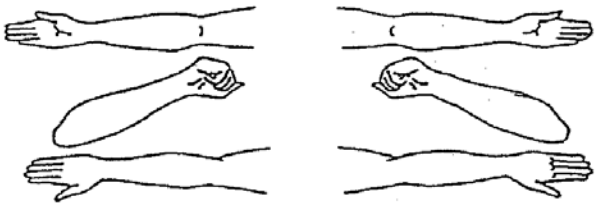
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
146/102	100.5

Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid

Comments: Arms, neck, face rigid

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
Nothing	No answer	No answer	Refused

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
01/25/10 0055	0100	0115	0205	

Officer's Signature: DRE # 005308 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Buchanan, Lew B.

1. **LOCATION:** The evaluation 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 Tim Gaffney of the Phoenix P.D.

3. **BREATH ALCOHOL TEST:** Buchanan's breath test was 0.02%.

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 Street. 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 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:** The suspect's pupils were dilated in all three lighting levels. The suspect's pulse, blood pressure and temperature were above the normal ranges.

9. **SIGNS OF INGESTION:** None were observed.

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 (ETOH) and a Hallucinogen*** and was unable to operate a vehicle safely.

12. **TOXICOLOGICAL SAMPLE:** The suspect provided a blood sample.

13. **MISCELLANEOUS:** A small baggy of dried mushrooms were located in the suspect's coat pocket. He denied ownership and said he didn't know what they were.

Rev. 10/10

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 a 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, and/ or Bufotenine

4. What is a "bad trip"?

   An hallucination where the user becomes panic-stricken by what he/she is seeing or hearing, and may become uncontrollably excited, or even try to flee from the terror.

5. What does "psychotomimetic" mean?

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

6. What is an "illusion"? What is a "delusion"?

   An "illusion" is a false perception, i.e. a misrepresentation of what the senses are receiving. A "delusion" is a false belief.

7. What is the difference between "hallucinations" and "pseudo-hallucinations"?

   The difference is that the user typically knows that what he/ she is seeing, hearing, smelling, etc. is not real, but is a product of the drug with a "pseudo-hallucinogen."

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.

45 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	▪ Instructor Led Demonstrations
B. Interpretation Practice	▪ Small Group Practice
	▪ Participant Led Presentations

I. PRACTICE: TEST INTERPRETATION

Session 15-1: Practice: Test Interpretation

Session XV

Practice: Test Interpretation

XV-1

Session 15-2: Practice: Test Interpretation

Practice: Test Interpretation

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

- **Analyze the results of a complete drug influence evaluation and identify the category or categories of drugs affecting the individual examined**
- **Articulate the basis for the drug category identification**

Drug Evaluation & Classification Training XV-2

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

A. Interpretation Demonstrations

Case One: Subject Adams

Direct students to review the "Subject Adams" exemplar in Section XV of their manuals.

Preliminary examination:

- Review the results of the Preliminary Examination of Subject Adams.
- 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.

Eye examinations:

- Review the results of the Eye Examinations of Subject Adams.
- Ask students to discuss the category or categories of drugs that would cause these eye examination results.

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.

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.

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.

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.

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.

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.

Case Two: Subject Baker

Direct students to review the "Subject Baker" exemplar.

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.

Eye examination:

- 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.

Psychophysical tests:

- Review the results of the Psychophysical Test of Subject Baker.
- Ask students to discuss the category or categories of drugs that would produce these psychophysical test results.

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.

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.

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.

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.
- Ask students to comment on the category or categories of drugs that would be consistent with all of the evidence on this exemplar.

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.

B. Interpretation Practice

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.

Review and discussion of exemplars by teams.

Allow teams approximately 15 minutes to review the three exemplars and reach their conclusions.

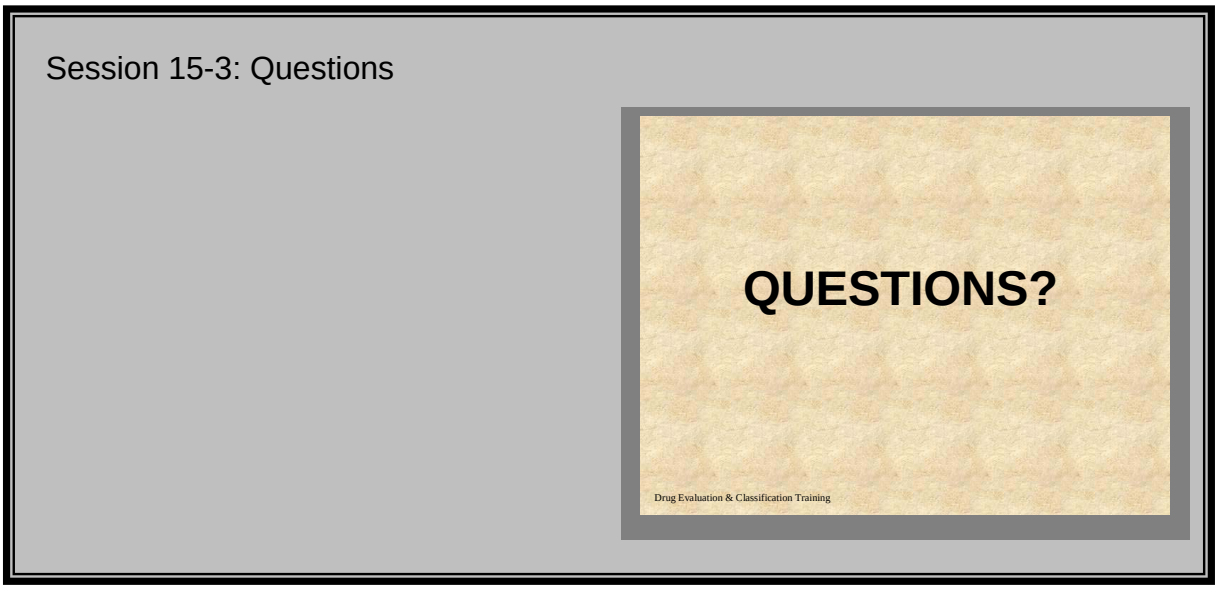
Feedback of Results

Poll the teams to determine their conclusions concerning the category or categories of drugs present in each subject.

- Subject Charles
- Subject Dodge
- Subject Edwards

Offer approximate comments concerning the teams performance.

C. Session Wrap-Up



Solicit students' comments and questions concerning this practice session.

DRUG INFLUENCE EVALUATION

Evaluator: Deputy Josh Warner, Boulder Co. S.O.	DRE # 007359	Rolling Log # 10-235	**Session XV-I- #1**
Recorder/Witness: Deputy Mark George, Boulder Co. S.O.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 07-10025
Arrestee's Name (Last, First, Middle): Adams, Frances A.	Date of Birth: 1/1/65	Sex: M	Race: W
Arresting Officer (Name, ID#): Deputy Mark George, BCSO #225			
Date Examined / Time /Location: 10/06/10 10:30 pm Intake Center	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 1235	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

Miranda Warning Given: Given By: Dpty. George	☒ Yes ☐ No	What have you eaten today? When? Hamburger Noon	What have you been drinking? How much? Water	Time of last drink? N/A
Time now/ Actual: 10:30 pm/ 10:40 pm	When did you last sleep? How long: Last night 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: Cooperative	Coordination: Poor, stumbling, staggering		
Speech: Slow, slurred, thick	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy	

Pulse and time

4. 58 / 2235
2. 56 / 2252
3. 58 / 2305

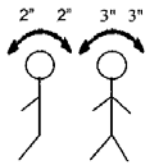
HGN

	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	35	35

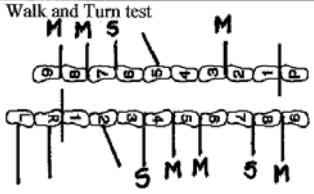
Convergence — Right eye / Left eye

26 ONE LEG STAND 28

Romberg Balance



Walk and Turn test



Cannot keep balance ✓✓

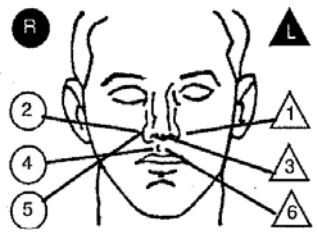
Starts too soon

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

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

Internal clock: 42 estimated as 30 seconds	Describe Turn: Turned backwards	Cannot do test (explain): N/A	Type of footwear: Work boots

Draw lines to spots touched



Slow hand movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.0	6.0	3.0
Right Eye	4.0	6.0	3.0

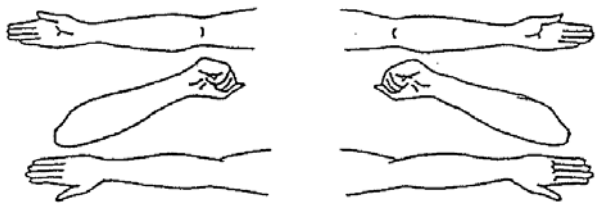
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



No marks visible

Blood pressure	Temperature
104/64	97.6

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments: Very relaxed

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
"None"	Refused	Refused	Refused

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
10/06/10 9:50 pm	10:15 pm	10:30 pm	11:40 pm	

Officer's Signature: DRE # 007359 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Adams, Frances A.

1. **LOCATION:** The evaluation was conducted 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:** Adams' breath test was a 0.00%.

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 a 2" front to back sway. He estimated 30 seconds in 42 seconds. Walk & Turn: Suspect lost his balance twice during the instructions, missed heel to toe five times, stopped while walking three times, turned improperly, stepped off the line twice 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:** Nothing observed.

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:**

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DRUG INFLUENCE EVALUATION

Evaluator: Trooper Jim Klock, New York State Police	DRE # 10716	Rolling Log # 10-021	**Session XV-I #2**
Recorder/Witness: Sergeant Doug Paquette, New York S.P.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-1128845
Arrestee's Name (Last, First, Middle): Baker, Sam B.	Date of Birth: 10/15/72	Sex: M	Race: B
Arresting Officer (Name, ID#): Trooper Jim Guerriere, NYSP #5525			
Date Examined / Time /Location: 07/04/10 2230 Cooperstown PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 3201	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: Given By: Tpr. Guerriere	☒ Yes ☐ No	What have you eaten today? When? Milkshake 3 hrs. ago	What have you been drinking? How much? "No, nothing"	Time of last drink? N/A
Time now/ Actual: 8:30 pm/2242	When did you last sleep? How long: This morning 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: Poor, stumbling		
Speech: Rapid, slurred at times	Breath Odor: Rancid	Face: Normal, sweaty		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 90 / 2235	Lack of Smooth Pursuit	No	No
2. 92 / 2246	Maximum Deviation	No	No
3. 88 / 2253	Angle of Onset	None	None

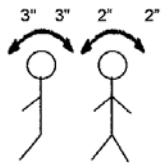
Convergence — Right eye, Left eye

40 ONE LEG STAND 38

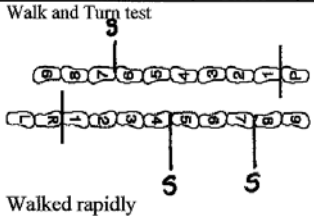
L R
☑ ☑ Sways while balancing
☑ ☑ Uses arms to balance
☐ ☐ Hopping
☐ ☑ Puts foot down

Counted quickly

Romberg Balance



Walk and Turn test

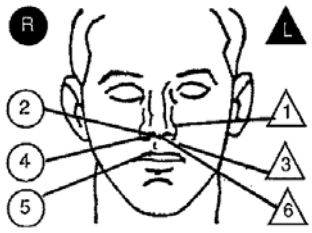


Walked rapidly

	1st Nine	2nd Nine
Cannot keep balance		
Starts too soon		
Stops walking	✓✓	✓
Misses heel-toe		
Steps off line		
Raises arms	✓✓✓	✓✓
Actual steps taken	9	9

Internal clock: 21 estimated as 30 seconds	Describe Turn: As instructed	Cannot do test (explain): N/A	Type of footwear: Athletic shoes

Draw lines to spots touched



Quick and jerky movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.5	8.0	6.0
Right Eye	6.5	8.0	6.0

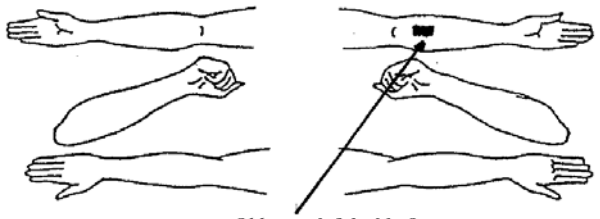
Nasal area: Redness, runny nose

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Old scars left inside forearm

Blood pressure	Temperature
142/102	99.7

Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
None	No answer	N/A	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
07/04/10 2130	2200	2230	2340	Troop C

Officer's Signature: DRE # 10716 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Baker, Sam B.

1. **LOCATION:** The evaluation was conducted at the Cooperstown Police Department.

2. **WITNESSES:** The evaluation was witnessed and recorded by Sergeant Doug Paquette of the New York State Police.

3. **BREATH ALCOHOL TEST:** Baker's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and advised to meet Trooper Guerriere at the Cooperstown Police Department for a drug evaluation. It was determined that Trooper Guerriere 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 and a 2" side to side sway and estimated 30 seconds in 21 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 during the OLS test. Finger to Nose: Suspect missed the tip of his nose on three of the six attempts and had 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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Trooper Kelly Gregerson, WSP	DRE # 5598	Rolling Log # 10-03-010	**Session XV-I #3**
Recorder/Witness: Trooper Harlan Jackson, WSP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-10127
Arrestee's Name (Last, First, Middle): Charles, Mary C.	Date of Birth: 6/13/72	Sex: F	Race: W
Arresting Officer (Name, ID#): Tpr. H. Jackson, WSP #20084			
Date Examined / Time /Location: 03/17/10 0045 Olympia WSP Office	Breath Results: Results: 0.07	Test Refused ☐ Instrument #: 212005	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐
Miranda Warning Given ☒ Yes ☐ No; Given By: Tpr. Jackson	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/ Actual: Midnight/0058	When did you last sleep? How long: Last night 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	
Speech: Slurred	Breath Odor: Odor of alcoholic beverage	Face: Flushed	
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☐ Normal ☒ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy

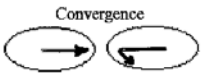
Pulse and time

1.	68	0050
2.	64	0105
3.	72	0117

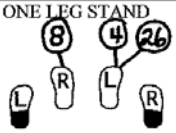
HGN

	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	40	40

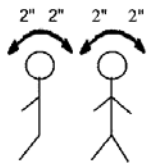
Convergence



31 ONE LEG STAND 30

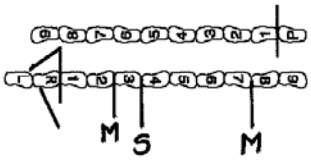


Romberg Balance



Circular sway

Walk and Turn test

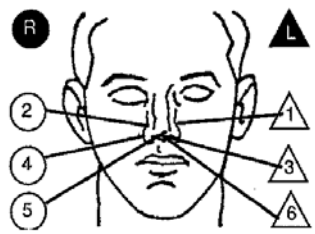


	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking	✓	
Misses heel-toe	✓✓	
Steps off line	✓	
Raises arms	constant	constant
Actual steps taken	9	9

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

Internal clock: 40 estimated as 30 seconds	Describe Turn: Lost balance/staggered	Cannot do test (explain): N/A	Type of footwear: Tennis shoes

Draw lines to spots touched



Slow movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.5	6.5	3.5
Right Eye	4.5	6.5	3.5

Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

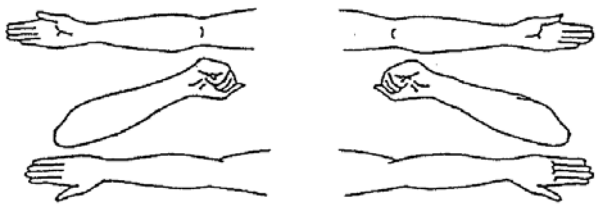
REACTION TO LIGHT: Slow

Blood pressure	Temperature
110/76	98.0

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

RIGHT ARM **LEFT ARM**



No visible marks

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
"None, just my pill"	No answer	N/A	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
03/17/10 0010	0025	0045	0125	Olympia District

Officer's Signature: DRE # 5598 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Charles, Mary C.

1. **LOCATION:** The evaluation was conducted at the WSP 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:** Charles' breath test was a 0.07%.

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 twice, 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 once while standing on her left foot and twice while standing on right foot. 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. The suspects blood pressure was below the normal range.

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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Trooper Mark Van Horn, Nebraska SP	DRE # 3957	Rolling Log # 10-008	**Session XV - #4**
Recorder/Witness: Sgt. Martin Denton, Nebraska SP	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-12050
Arrestee's Name (Last, First, Middle): Dodge, Fred D.	Date of Birth: 10/13/75	Sex: M	Race: W
Arresting Officer (Name, ID#): Sgt. Dale Hilderbrand, Grand Island P.D. #228			
Date Examined / Time /Location: 02/22/10 2215 Grand Island PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 43121	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

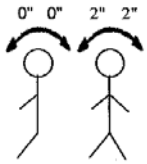
Miranda Warning Given: Given By: Sgt. Hilderbrand	☒ Yes ☐ No	What have you eaten today? When? 2 tacos 2 hrs. ago	What have you been drinking? How much? Nothing	Time of last drink? N/A
Time now/ Actual: 11:00 pm / 2220	When did you last sleep? How long: Yesterday 4-5 hrs.	Are you sick or injured? ☐ Yes ☒ 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		
Speech: Rapid	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 100 / 2225	Lack of Smooth Pursuit	No	No
2. 104 / 2235	Maximum Deviation	No	No
3. 100 / 2250	Angle of Onset	None	None

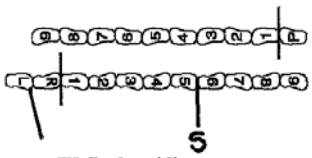
Convergence — Right eye ✓ Left eye ✓

38 ONE LEG STAND 35

Romberg Balance



Walk and Turn test



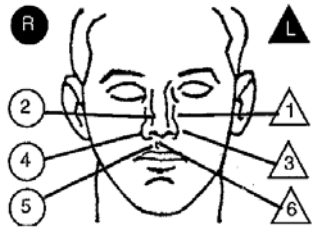
Walked rapidly

	1st Nine	2nd Nine
Cannot keep balance		
Starts too soon	✓✓	
Stops walking	✓	
Misses heel-toe		
Steps off line		
Raises arms	✓✓	✓✓
Actual steps taken	9	9

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

Internal clock: 22 estimated as 30 seconds	Describe Turn: As instructed	Cannot do test (explain): N/A	Type of footwear: Boots

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.0	8.5	5.0
Right Eye	6.0	8.5	5.0

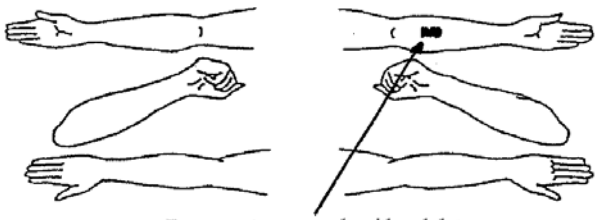
Nasal area: Redness

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Four puncture wounds with red dots

Blood pressure: 142/96	Temperature: 99.5		
Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid			
Comments:			
What drugs or medications have you been using? "I'm not answering that man"	How much? No answer	Time of use? No answer	Where were the drugs used? (Location) No answer
Date / Time of arrest: 02/22/10 2135	Time DRE was notified: 2200	Evaluation start time: 2215	Evaluation completion time: 2320
Officer's Signature:	DRE # 1957	Reviewed/approved by / date:	Precinct/Station:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Dodge, Fred D.

1. **LOCATION:** The evaluation was conducted at the Grand Island Police Department.

2. **WITNESSES:** The evaluation was recorded by Mark Denton of the Nebraska State Patrol.

3. **BREATH ALCOHOL TEST:** Dodge's breath test was 0.00%.

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 P.D. where it was determined the suspect had been involved in an attempted elude and was apprehended at E. Bismark Road and S. Oak. The suspect was very restless, animated and unable to stand still. He was also 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 at the P.D. His speech was rapid and loud. He seemed unconcerned about being under arrest. He had quick movements and was unable to stand still.

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 22 seconds. Walk & Turn: Suspect twice started the test too soon, lost his balance once during the instructions, 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 while standing on his right foot. 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 two of the 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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

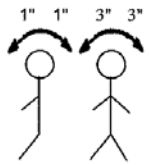
Evaluator: Sgt. Hans Lehman, Lakeland P.D.	DRE # 8837	Rolling Log # 10-018	**Session XV- #5**
Recorder/Witness: Sgt. Amy Fox, Jupiter Police Department	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-001701
Arrestee's Name (Last, First, Middle): Edwards, Joan E.	Date of Birth: 1/16/84	Sex: F	Race: W
Arresting Officer (Name, ID#): Officer R. Floyd, Lakeland P.D. #290			
Date Examined / Time /Location: 06/04/10 2300 Lakeland PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 41478	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

Miranda Warning Given: Given By: Ofc. Floyd	☒ Yes ☐ No	What have you eaten today? When? Nothing N/A	What have you been drinking? How much? Nothing	Time of last drink? N/A
Time now/ Actual: "Don't know"	When did you last sleep? How long: "I don't remember"	Are you sick or injured? ☒ Yes ☐ No Sick to 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: Disoriented, cooperative	Coordination: Poor, unsteady		
Speech: Rambling, slurred	Breath Odor: Normal	Face: Sweaty, dazed appearance		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time	HGN	Left Eye	Right Eye
1. 100 / 2310	Lack of Smooth Pursuit	No	No
2. 108 / 2325	Maximum Deviation	No	No
3. 104 / 2337	Angle of Onset	None	None

Convergence — Right eye — Left eye

Romberg Balance

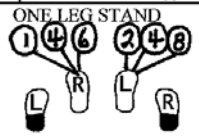


Walk and Turn test

Missed heal to toe on all steps

	1st Nine	2nd Nine
Cannot keep balance		
Starts too soon		
Stops walking		
Misses heel-toe	all steps	all steps
Steps off line	all steps	all steps
Raises arms		
Actual steps taken	10	9

ONE LEG STAND

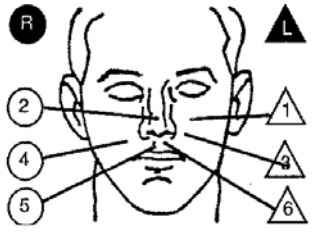


L R
☐ ☐ Sways while balancing
☑ ☑ Uses arms to balance
☐ ☐ Hopping
☑ ☑ Puts foot down

Test stopped

Internal clock: 90 estimated as 30 seconds	Describe Turn: Turned wrong direction	Cannot do test (explain): Kept stopping	Type of footwear: Flip-flops

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	6.5	9.0	6.5
Right Eye	6.5	9.0	6.5

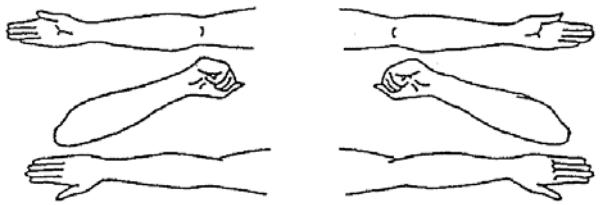
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Slow

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
148/110	100.0

Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid

Comments: Very rigid arms

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
"Nothing"	No answer	No answer	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
06/04/10 2235	2245	2300	2355	

Officer's Signature: DRE # 8837 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Edwards, Joan E.

1. **LOCATION:** The evaluation was conducted at the Lakeland Police Department.

2. **WITNESSES: Sergeant** Amy Fox of the Jupiter Police Department.

3. **BREATH ALCOHOL TEST:** Edwards' breath test was a 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was advised to contact Officer Floyd at Lakeland Police Department for a drug evaluation. It was determined that Officer Floyd 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. After failing the SFST's, the suspect was arrested for DUI.

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" side to side 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 suspect put her foot down three times on each foot and the test was 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.

Rev. 10/10

1 Hour and 40 Minutes

SESSION XVI

DISSOCIATIVE ANESTHETICS

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

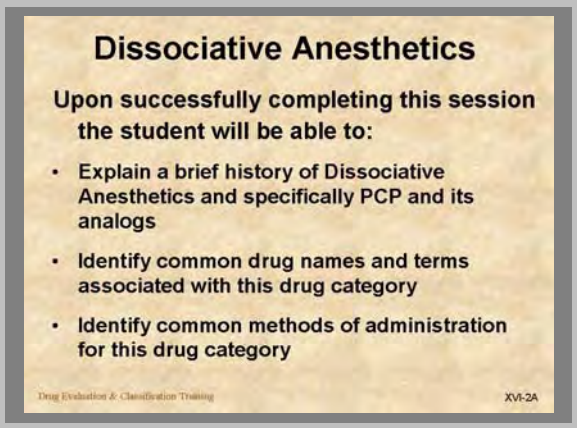
- Explain a brief history of Dissociative Anesthetics and specifically PCP and its analogs.
- Identify common drug names and terms associated with this drug category.
- Identify common methods of administration for this drug category.
- Describe the symptoms, observable signs and other effects associated with this drug category.
- Describe 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	▪ Instructor-Led Presentations
B. Possible Effects of Dissociative Anesthetics	▪ Review of DEC Exemplars
C. Onset and Duration of Effects	▪ Reading Assignments
D. Signs and Symptoms of Dissociative Anesthetics Overdose	▪ Video Presentations
E. Expected Results of the Evaluation	▪ Slide Presentations

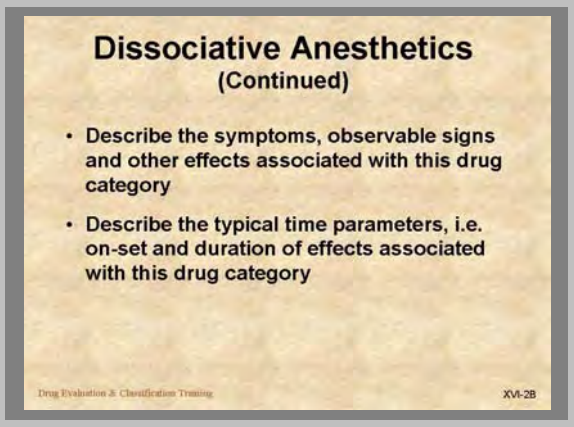
I. DISSOCIATIVE ANESTHETICS

Session 16-1: Session 16

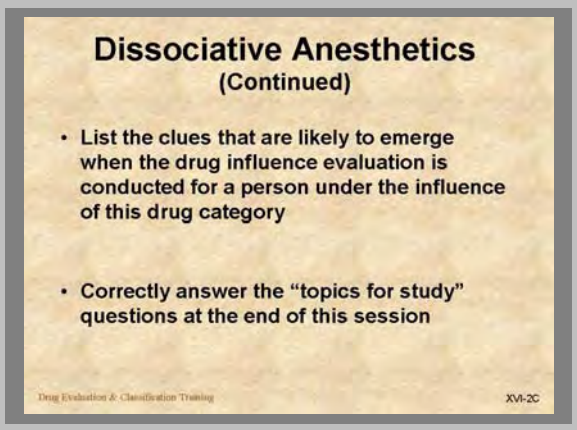
Session 16-2: Dissociative Anesthetics



Session 16-2B: Dissociative Anesthetics



Session 16-2C: Dissociative Anesthetics

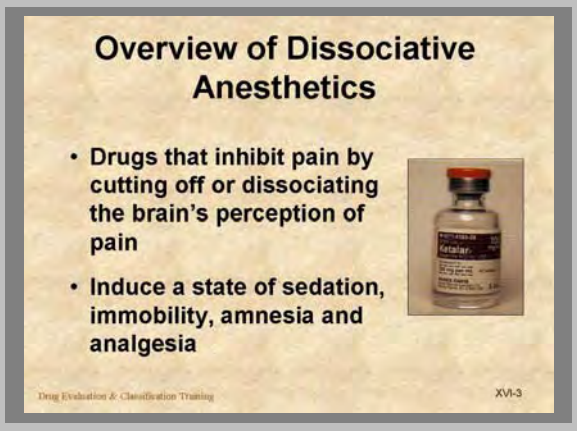


Briefly review the objectives, content and activities of this session.

A. Overview of the Category

- Point out that this category was changed from PCP to Dissociative Anesthetics by the IACP DRE Technical Advisory Panel in September 2005.

Session 16-3: Overview of Dissociative Anesthetics



Dissociative Anesthetics

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 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.

Phencyclidine (PCP)

Phencyclidine or PCP, is a drug that, along with its analogs, are examples of this distinct drug category.

The chemical for PCP is Phenyl Cyclohexyl Piperidine.

Write the chemical name on the dry erase board or flip-chart, underlining the first "P", the first "C" and the last "P".

- PCP shares some characteristics with each of the three categories of drugs previously covered in this training.

- Point out that PCP and its analogs have often been referred to as "psychedelic anesthetics" because of the bizarre and varying effects they can cause.

- Point out that "Phencyclidine" is a contracted or a shortened form of the chemical name.

- Point out that an "analog" is a chemical that is very similar to the drug in terms of molecular structure or in psychoactive effects.

    - 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.

    - 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.

    - In some respects it acts like a Hallucinogen.

- Point out that in many medical texts and other reference documents, PCP may be classified as a Hallucinogen. However, for purposes of the Drug Evaluation and Classification program, it is treated as a separate category.

Session 16-4A: Brief History of PCP

Phencyclidine was first developed in the late 1950's.

Developed by Parke-Davis and Company, a leading pharmaceutical firm.

- The developers were searching for a drug that would serve as an efficient intravenous anesthetic.

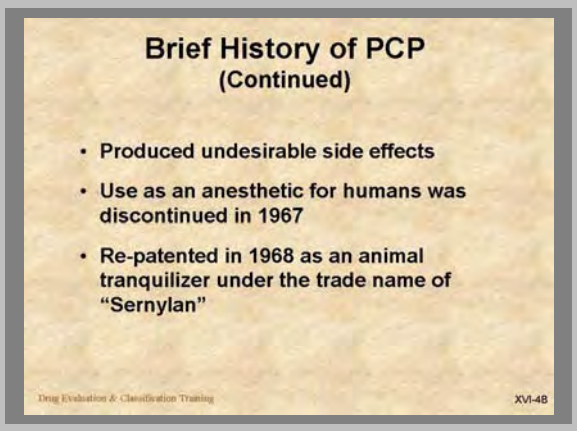
- PCP proved to be a very effective anesthetic.

An anesthetic is an agent that reduces or abolishes sensation.

- It was patented and marketed in 1963 under the trade name Sernyl.
- It was used in the treatment of mental and psychological disorders, including schizophrenia.
- 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.

Session 16-4B: Brief History of PCP



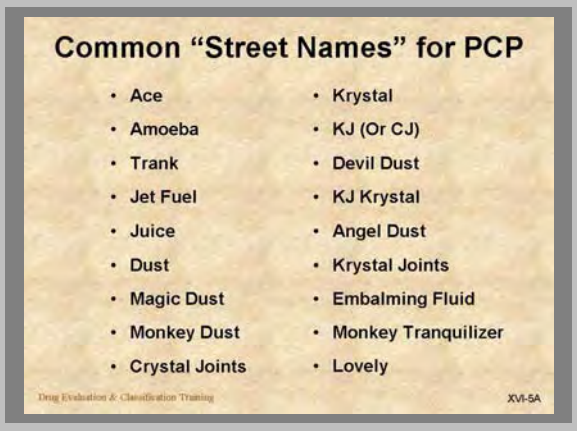
- In 1967, use of Phencyclidine as an anesthetic for humans was discontinued.
- In 1968, Parke-Davis re-patented PCP under the trade name Sernylan, which was restricted to use as a veterinary anesthetic.
- Sernyl for animals = Sernylan.
- However, Sernylan was often illicitly diverted to "street" use, so most legitimate manufacturing of PCP was stopped in 1978.
- Point out that this is why PCP sometimes goes by the "street" names "Monkey Dust"; "Elephant Tranquilizer"; "Horse Tranquilizer"; etc.

The Manufacture of PCP

PCP is relatively easy to manufacture.

- The chemicals required to produce it are readily available commercially.
- 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.
- The hardware needed to combine the chemicals is very basic.

Session 16-5A: Common "Street Names" for PCP



Session 16-5B: More "Street Names" for PCP

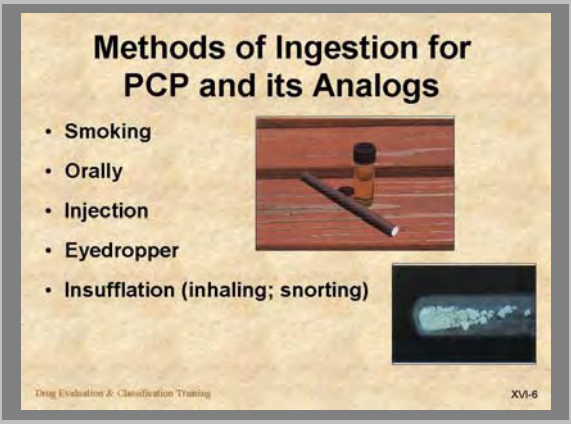
- Street names for PCP – "angel dust," "crystal," "sherms," "elephant tranquilizer," and "water."

- 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.

- 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.

Session 16-6: Methods of Ingestion for PCP and its Analogs



Methods of Ingestion: PCP

If available, display slides of the various PCP ingestion paraphernalia.

- Many users ingest PCP by smoking.

- 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.

- Popular substances include mint leaves, parsley, oregano, tobacco, or marijuana.

- Note: Liquid PCP is especially dangerous because it can be absorbed through the skin. Hence, it could be used as a weapon.

- 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.

- 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.

- 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.

PCP can also be insufflated or "snorted."

It can also be taken orally, in capsule or tablet form.

Some users inject liquid PCP, either directly into a vein, under the skin or into a muscle.

Some users have administered PCP to themselves by dripping liquid PCP onto their eyes, using an eyedropper.

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.

Session 16-7A: Ketamine

Ketamine

Another drug in this category is called Ketamine. It continues to be manufactured and sold legitimately.

Write Ketamine on the dry erase or flip-chart.

Ketamine is a white, crystalline powder or clear liquid.

- Ketamine is used as a rapid surgical anesthetic, both for animals and humans, especially children.
- Some brand names of Ketamine: Ketalar, Ketaject, Ketaset, and Vetalar.
- Ketamine is also used for burn victims.

Session 16-7B: “Street Names” for Ketamine

- Street names include “K,” “Special K,” “Vitamin K,” “Jet” and “Super acid.”

Session 16-7C: Methods of Ingesting Ketamine

Ketamine 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 homemade cigarettes.

Popular substances include mint leaves, parsley, oregano, tobacco, or marijuana.

Commercially prepared cigarettes can also be dipped in liquid Ketamine, allowed to dry and then smoked.

Some users prefer to dip a string in liquid Ketamine, and then insert the string into a tobacco cigarette.

Session 16-8A: Dextromethorphan (DXM)

Another drug in this category is Dextromethorphan. It is sometimes referred to as "DXM" and is an ingredient found in numerous over-the-counter cough and cold remedies.

- 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 Hallucinogen. 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.
- DXM is a synthetically produced substance that is chemically related to Codeine, although it is not an opiate.
- 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.
- DXM abusers normally ingest the drug orally, although some snort
- Some abusers ingest 250 to 1,500 milligrams in a single dosage.

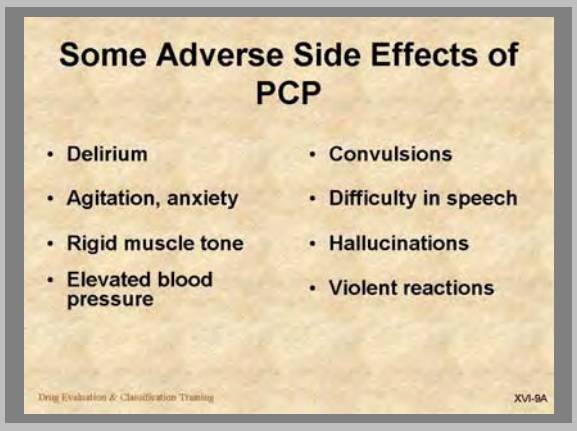
Session 16-8B: "Street Names" for DXM

- Street names for Dextromethorphan include: "DXM," "robo tripping," "Skittles," "Triple C," "Robo dosing," "DM," and "robo."

Session 16-8C: Methods of Ingesting Dextromethorphan

B. Possible Effects

Session 16-9A: Some Adverse Side Effects of PCP



Continuing research has demonstrated that PCP and other Dissociative Anesthetics consistently produced the following adverse side effects:

- Delirium
    - Delirium: confusion, incoherent speech, excitement, illusions, hallucinations, and disorientation.
- agitation, anxiety
- rigid muscle tone
- elevated blood pressure
- convulsions
    - Convulsion: involuntary contortion of the muscles, producing contortion of the body and limbs.
- difficulty in speech
- hallucinations
- violent reactions

Some lingering and long term effects were also noted.

- Some patients complained of dizziness for several hours after their attention and consciousness appeared to be cleared of PCP's effects.

- Some patients report 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.

PCP is classified as a Dissociative Anesthetic, because it cuts off the brain's perceptions of the senses.

- PCP users often feel that their heads are physically separated from their bodies.

- They sometimes report feeling they are dead, and that their heads are floating away.

Cases of terribly bizarre, self destructive behavior have been reported with persons under the influence of PCP.

- Note: Instructors should feel free to replace or supplement these examples with others known personally to them.

- 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.

- Another individual suffered hallucinations of unbelievably grotesque monsters, and gouged out his own eyes to avoid seeing the monsters.

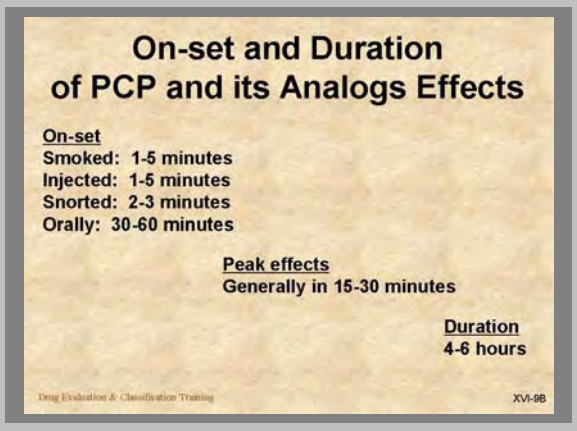
- Another young man drank rat poison, attempting to kill rats that he imagined were inhabiting his body.

- 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.

C. Onset and Duration of Effects

Session 16-9B: On-set and Duration of PCP and its Analogs Effects



PCP

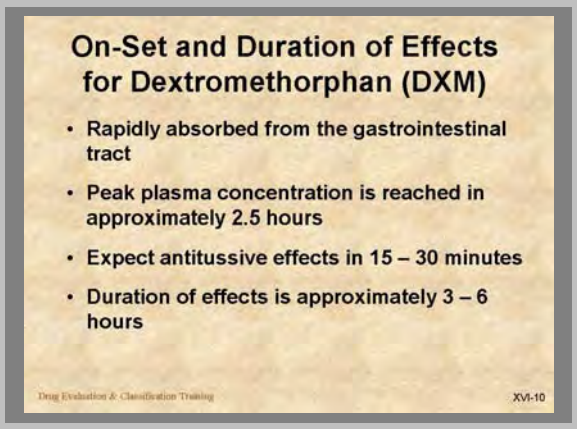
- When PCP is smoked or injected, onset occurs within 1 – 5 minutes.
- When inhaled ("snorted") onset occurs in 2 – 3 minutes.
- Onset is considerably slower when PCP is taken orally: 30 – 60 minutes.
- The effects reach their peak in about 15 – 30 minutes, assuming the PCP was smoked, injected or snorted.
- The effects generally last 4 – 6 hours, but they can go somewhat longer.
- The user usually, but not always returns to normal within 24 – 48 hours.

Ketamine

- Within seconds if smoked; duration varies.
    - Point out that Ketamine abusers will often "re-administer" the drug due to it's relatively short duration of action.
- 1 – 5 minutes if injected; lasting 30 – 45 minutes.
- 5 – 10 minutes if snorted; lasting 45 – 60 minutes.

- 15 – 20 minutes if orally; lasting 1 – 2 hours.

Session 16-10: On-set and Duration of Effects for Dextromethorphan



Dextromethorphan

- Point out that Dextromethorphan is demethylated to dextrorphan an active metabolite.

- Rapidly absorbed from the gastrointestinal tract and peak plasma concentrations are reached in approximately 2.5 hours.

- DXM is widely distributed and is rapidly and extensively metabolized by the liver.

- 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.

DXM Plateau (or effect)

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.

1st Plateau: Mild inebriation.

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.

3rd Plateau: An altered state of consciousness where the abuser's senses, particularly vision, can become impaired.

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.

- Other effects include: blurred vision, body itching, rash, sweating, fever, hypertension, shallow respiration, diarrhea, toxic psychosis, and an increased heart rate, blood pressure and body temperature.
- Acute dose between 250 – 1500 mg.

Solicit students' questions and comments concerning onset and duration factors.

D. Signs and Symptoms of Dissociative Anesthetic Overdose

In addition to the bizarre, violent and self destructive behavior discussed previously, persons severely intoxicated by Dissociative Anesthetics may exhibit definite and extreme symptoms signifying a medically dangerous condition.

- A deep coma, lasting up to 12 hours.

- Seizures and convulsions.

- A danger associated with severe Dissociative Anesthetics intoxication is that the person may die due to respiratory depression.

- There is also some evidence that Dissociative Anesthetics may trigger a heart attack, if the user had some pre-existing condition disposing him or her to possible cardiac problems.

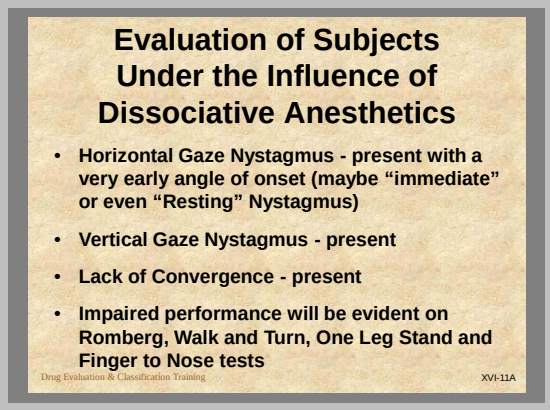
- Eyes generally open with a blank stare.

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

Solicit students questions and comments concerning signs and symptoms of Dissociative Anesthetic overdose.

E. Expected Results of the Evaluation

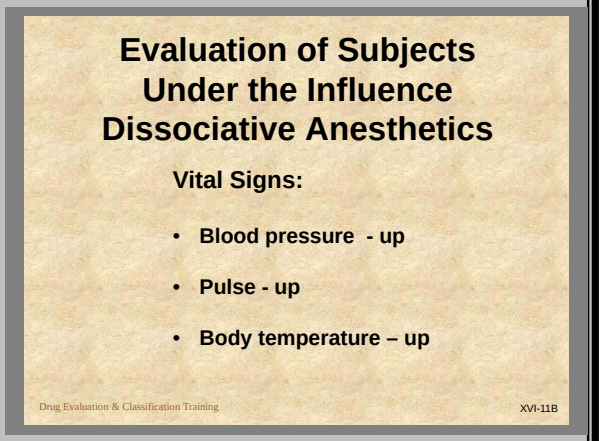
Session 16-11A: Evaluation of Subjects Under the Influence of Dissociative Anesthetics



- Horizontal Gaze Nystagmus generally will be present with a very early angle of onset.
    - Note: So-called "Resting Nystagmus" may be evident, especially with high doses.
    - Remind the students that Resting Nystagmus is a distinct jerking of the eyeballs even as the subject stares straight ahead.
- Vertical Gaze Nystagmus usually will be present.
- Lack of convergence will generally be present.
- Performance on Romberg will be impaired: internal clock may be slowed.
- Performance on Walk and Turn, One Leg Stand, and Finger to Nose will be impaired: muscle tone will usually be rigid.

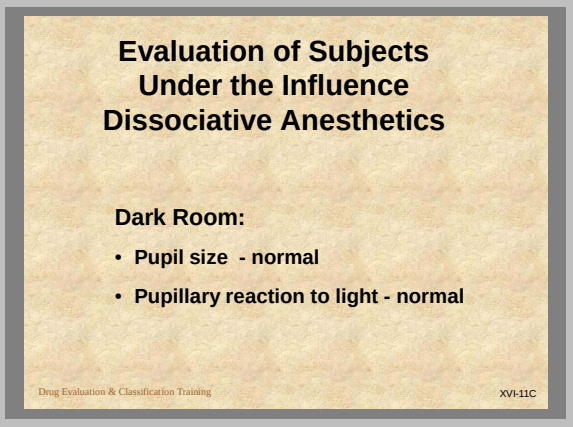
With PCP, the subject may exhibit a "high gait ataxia" or "moon walking," i.e. taking abnormally high and slow steps, as though he or she were trying to step over obstacles in his or her path.

Session 16-11B: Evaluation of Subjects Under the Influence of Dissociative Anesthetics



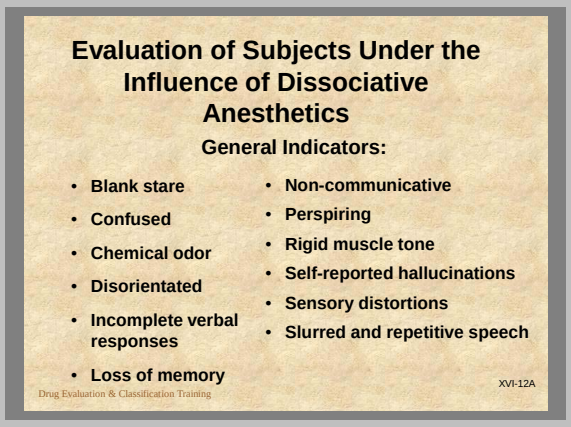
- Blood pressure will generally be elevated.
- Body temperature will generally be up.

Session 16-11C: Evaluation of Subjects Under the Influence of Dissociative Anesthetics



- Pupil size will be normal.
- Reaction to light will be normal.
- Muscle tone will generally be rigid.

Session 16-12A: General Indicators



General Indicators

Point out that many, but not all of the general indicators for PCP and DXM are very similar.

- Blank stare
- Confused
- Chemical odor
- Cyclic behavior

Note: PCP abusers may display "Cyclic behaviors" which mean that the signs and symptoms tend to increase and decrease cyclically.

- Difficulty with speech
- Disoriented
- Early HGN angle of onset
- Hallucinations

Note: Especially auditory hallucinations.

- Incomplete verbal responses
- Non-communicative
- Perspiring
- Sensory distortions
- Possibly violent
- Slurred and repetitive speech
- Warm to touch

Session 16-12B: Dissociative Anesthetics Symptomatology Chart

Summary

- Expected results of the evaluation.
- Point out that as with other drug categories, DREs should not specify the exact drug such as PCP, Ketamine or DXM.
- When a DRE concludes that a subject is impaired by a Dissociative Anesthetic, such as PCP or DXM, the report should state that "the subject is under the influence of a Dissociative Anesthetic."

Demonstrations

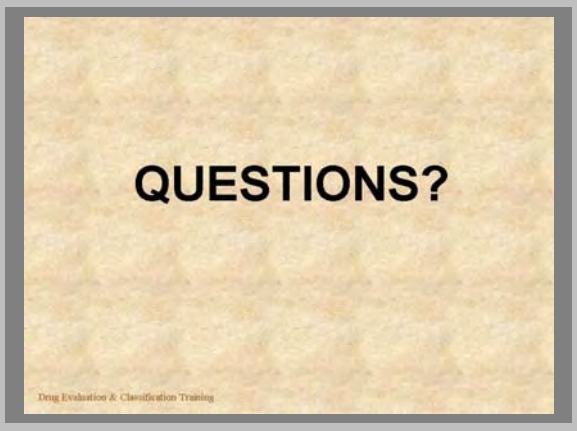
- Video Demonstrations

Drug Evaluation and Classification Exemplar Demonstrations

Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved narrative report. The actual narrative report submitted by DREs will be more detailed.

- 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 Dissociative Anesthetic symptoms. Show video of subject(s) under the influence of Dissociative Anesthetics. Relate behavior and observations to the drug Symptomatology Chart.

Session 16-13: Questions



Solicit questions or comments concerning expected results of the drug evaluation of Dissociative Anesthetic subjects.

DRUG INFLUENCE EVALUATION

Evaluator: Sgt. Gerry Britt, Yamouth P.D.	DRE #: 007480	Rolling Log #: 10-09-12	**Session XVI- #1**
Recorder/Witness: Dr. Jack Richman	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 388661
Arrestee's Name (Last, First, Middle): Ross, Robert H.	Date of Birth: 9/6/79	Sex: M	Race: W
Arresting Officer (Name, ID#): Sgt. Deb Batista, Middleboro P.D. #4485			
Date Examined / Time /Location: 09/18/10 2145 Middleboro PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 12838	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

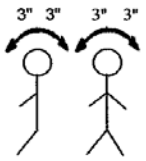
Miranda Warning Given: Given By: Sgt. Batista	☒ Yes ☐ No	What have you eaten today? When? Chicken 6 AM	What have you been drinking? How much? Nothing	Time of last drink? N/A
Time now/ Actual: 8 PM/10 PM	When did you last sleep? How long: Yesterday 6 hrs.	Are you sick or injured? ☐ Yes ☒ No	Are you diabetic 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: Passive, cooperative	Coordination: Poor, staggering		
Speech: Slurred, slow and low	Breath Odor: Chemical odor	Face: Flushed and sweaty		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus: ☒ Yes ☐ No	Able to follow stimulus: ☒ Yes ☐ No	Eyelids: ☒ Normal ☐ Droopy	

Pulse and time:
1. 100 / 2150
2. 102 / 2204
3. 98 / 2217

HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	Immediate	Immediate

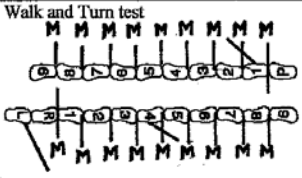
Convergence — Right eye, Left eye

Romberg Balance



Circular sway

Walk and Turn test



Walked stiff legged

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon	✓	
Stops walking	✓	✓
Misses heel-toe	All Steps	All Steps
Steps off line	✓	✓
Raises arms	✓✓✓	✓✓
Actual steps taken	9	9

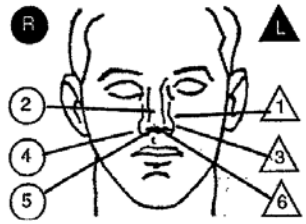
7 ONE LEG STAND 6

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

Test stopped

Internal clock: 45 estimated as 30 seconds	Describe Turn: Spun around	Cannot do test (explain): N/A	Type of footwear: Boots

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.0	6.0	3.5
Right Eye	4.0	6.0	3.5

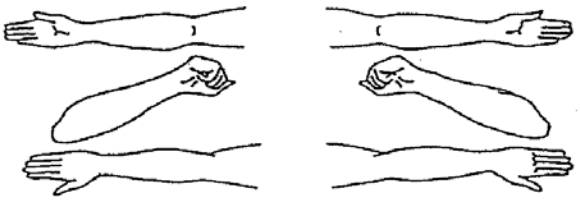
Nasal area: Clear

Oral cavity: Clear, chemical odor

REBOUND DILATION: ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
146/100	99.8

Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid

Comments: Very rigid arms

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
Nothing	N/A	No answer	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
09/18/10 2100	2120	2145	2250	

Officer's Signature: DRE # 007480 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Ross, Robert H.

1. **LOCATION:** The evaluation was conducted at the Middleboro Police Department.

2. **WITNESSES:** Arresting officer; Sergeant Deb Batista of the Middleboro Police Department and Dr. Jack Richman of New England College of Optometry.

3. **BREATH ALCOHOL TEST:** Ross' breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and advised to contact Sergeant Batista at the Middleboro Police Department for a drug evaluation. Sergeant 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 did not know where he was or where he was going. He had a blank stare and appeared very confused. He was arrested for DUI after performing poorly on the SFST's.

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 to 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 twice, stopped walking twice, used his arms for balance and missed heel to toe on all steps. One Leg Stand: Suspect was unable to complete the test on either foot. Finger to Nose: Suspect missed the tip of his nose on four of the six attempts. 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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator	DRE #	Rolling Log #	
Officer Steve Dunn, Anchorage P.D.	0011218	10-04-33	**Session XVI- #2**

Recorder/Witness	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property	
Officer Chris Ritala, A.P.D.		Case # 07-18430

Arrestee's Name (Last, First, Middle)	Date of Birth	Sex	Race	Arresting Officer (Name, ID#)
Albright, Jeremy J.	4/10/86	M	W	Officer David Pollock, A.P.D. #1374

Date Examined / Time /Location	Breath Results: Test Refused ☐	Chemical Test: Urine ☐ Blood ☒
04/07/10 1420 4th Ave. Substation	Results: 0.00 Instrument #: 75470	Test or tests refused ☐

Miranda Warning Given	☒ Yes ☐ No	What have you eaten today? When?	What have you been drinking? How much?	Time of last drink?
Given By: Ofc. Pollock		Cheeseburger & fries 11AM	Water N/A	N/A

Time now/ Actual	When did you last sleep? How long	Are you sick or injured?	Are you diabetic or epileptic?
"1:30PM" (1427)	"Night before last" 1-2 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	Cooperative	Slow and deliberate

Speech:	Breath Odor:	Face:
Slurred	Normal	Flushed

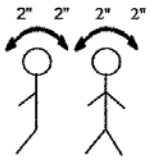
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: [ ] Reddened Conjunctiva ☐ Normal ☒ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal

Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☒ Yes ☐ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy

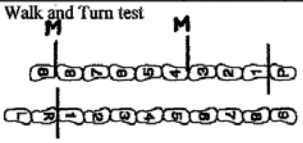
Pulse and time	HGN	Left Eye	Right Eye
1. 110 / 1430	Lack of Smooth Pursuit	Yes	Yes
2. 112 / 1446	Maximum Deviation	Yes	Yes
3. 110 / 1501	Angle of Onset	Immediate	Immediate

Convergence — Right eye / Left eye

Romberg Balance



Walk and Turn test



Walked slowly

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon		
Stops walking		
Misses heel-toe		✓✓
Steps off line		
Raises arms		
Actual steps taken	9	9

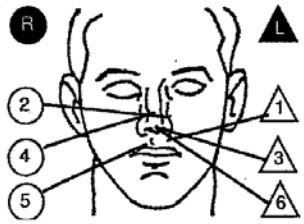
34 ONE LEG STAND 36

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

Leg tremors

Internal clock	Describe Turn	Cannot do test (explain)	Type of footwear:
28 estimated as 30 seconds	Shuffled feet	N/A	Tennis shoes

Draw lines to spots touched



Used the first pad of each finger

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	5.0	8.0	4.0
Right Eye	5.0	8.0	4.0

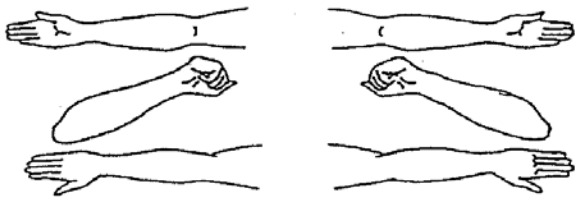
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
152/102	99.7

Muscle tone: ☒ Normal ☐ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
Coricidin	24 pills	Last night	Friend's house

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
04/30/10 1300	1350	1420	1515	

Officer's Signature:	DRE #	Reviewed/approved by / date:
	0011218	

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Albright, Jeremy J.

1. **LOCATION:** The evaluation was conducted at the 4th Avenue substation of the Anchorage Police Department.

2. **WITNESSES:** Officer Chris Ritala of A.P.D. witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Albright's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted 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 substation. His face was flushed and his speech slurred. His movements were slow and deliberate. He seemed disoriented and confused.

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 on the second nine steps. One Leg Stand: Suspect had leg tremors, swayed while balancing and used his arms for balance. 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.

Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Officer Jim Pullen, Westminster P.D.	DRE #: 010766	Rolling Log #: 10-56	**Session XVI- #3**
Recorder/Witness: Officer Jeff Schuster, W.P.D.	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 55170-04
Arrestee's Name (Last, First, Middle): George, Debra A.	Date of Birth: 8/24/84	Sex: F	Race: W
Arresting Officer (Name, ID#): Jeff Schuster, WPD #10765			
Date Examined / Time /Location: 05/02/10 2315 Westminster PD	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 74080	Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

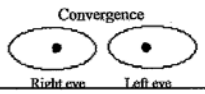
Miranda Warning Given ☒ Yes ☐ No; Given By: Ofc. Schuster	What have you eaten today? When? Pizza 6 PM	What have you been drinking? How much? Nothing N/A	Time of last drink? N/A	
Time now/ Actual: 11 PM/11:15 PM	When did you last sleep? How long: Last night 6-7 hrs.	Are you sick or injured? ☐ Yes ☒ No	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	Attitude: Passive, non-responsive	Coordination: Poor, slow, staggering		
Speech: Slow, confused, thick	Breath Odor: Normal	Face: Sweaty, flushed		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☒ Yes ☐ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☒ Normal ☐ Droopy	

Pulse and time

1. 106 / 2325
2. 104 / 2336
3. 104 / 2345

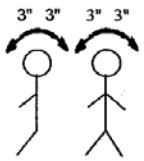
HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	Yes	Yes
Maximum Deviation	Yes	Yes
Angle of Onset	Immediate	Immediate

Convergence

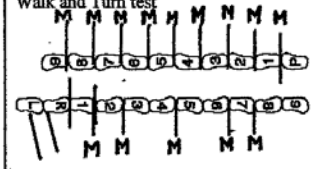


3 ONE LEG STAND 2

Romberg Balance



Walk and Turn test



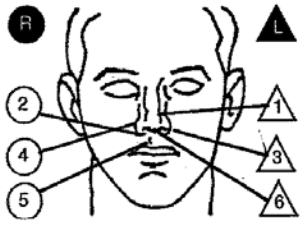
	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking		
Misses heel-toe	✓✓✓✓	all steps
Steps off line		
Raises arms	constant	constant
Actual steps taken	10	12

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

Test stopped for safety reasons

Internal clock: 42 estimated as 30 seconds	Describe Turn: Stopped, slow	Cannot do test (explain): N/A	Type of footwear: Sandals

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	4.0	6.5	3.5
Right Eye	4.0	6.5	3.5

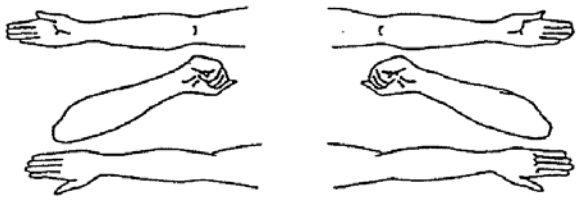
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Normal

RIGHT ARM **LEFT ARM**



Nothing observed

Blood pressure	Temperature
158/104	100.4

Muscle tone: ☐ Normal ☐ Flaccid ☒ Rigid

Comments:

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
No response	N/A	No response	No response

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
05/02/10 2250	2300	2315	2358	

Officer's Signature: DRE # 010766 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** George, Debra A.

1. **LOCATION:** The evaluation was conducted at the Westminster Police Department.

2. **WITNESSES:** Arresting officer; Jeff Schuster of W.P.D. witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** George's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and requested to contact Officer Schuster at W.P.D. for a drug evaluation. Officer Schuster stated he had stopped the suspect after observing her nearly hit several parked cars. Her speech was slow and slurred. She was very confused and not sure of her surroundings. Her coordination was very poor and she nearly fell attempting the SFST's.

5. **INITIAL OBSERVATION OF SUSPECT:** Writer first observed the suspect in the Processing Room at W.P.D. She appeared dazed and disoriented. She had a fixed stare and was responding slowly to Officer Schuster's questions. She was unstable on her feet and several times used the wall to steady herself. Her movements were slow and deliberate.

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 42 seconds. Walk & Turn: Suspect missed heel to toe numerous times and nearly fell twice. She repeatedly used her arms for balance and took a wrong number of steps. One Leg Stand: Suspect lost her balance using the wall to steady herself and the test had to be stopped. Finger to Nose: Suspect missed the tip of her nose on five of the six attempts.

8. **CLINICAL INDICATORS:** Suspect had six clues of Nystagmus with an immediate onset. Vertical Gaze Nystagmus was also present. She was unable to convergence her eyes and looked straight ahead. Her pulse, blood pressure and temperature were above the normal ranges.

9. **SIGNS OF INGESTION:** None were evident.

10. **SUSPECT'S STATEMENTS:** The suspect did not respond when questioned about drug. However, she did make several "K-Hole" references.

11. **DRE'S OPINION:** In my opinion George 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:**

Rev. 10/10

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 three words?

   Phenyl Cyclohexyl Piperidine

3 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 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.
- 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

A. Overview of the Category

B. Possible Effects

C. Onset and Duration

D. Overdose Signs and Symptoms

E. Expected Results of the Evaluation

F. Injection Site Examination

G. Expected Location of Injection Marks

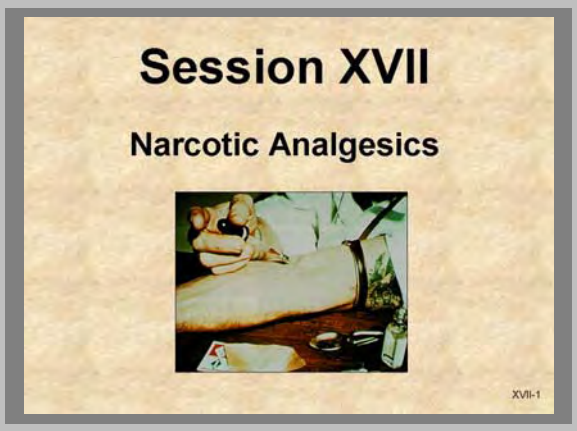
H. Conclusion

LEARNING ACTIVITIES

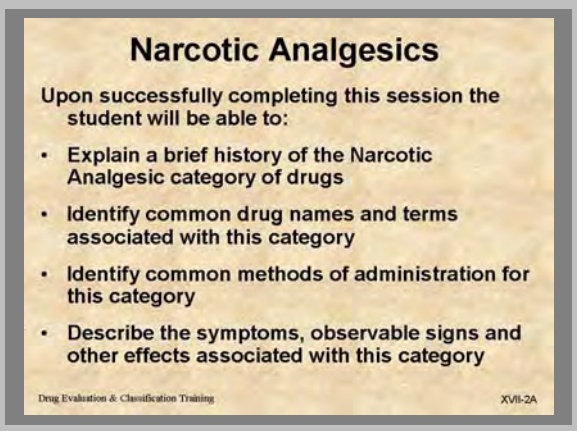
- Instructor-Led Presentations
- Review of Drug Evaluation and Classification Exemplars
- Reading Assignments
- Video Presentations (if available)
- Slide Presentations

I. NARCOTIC ANALGESICS

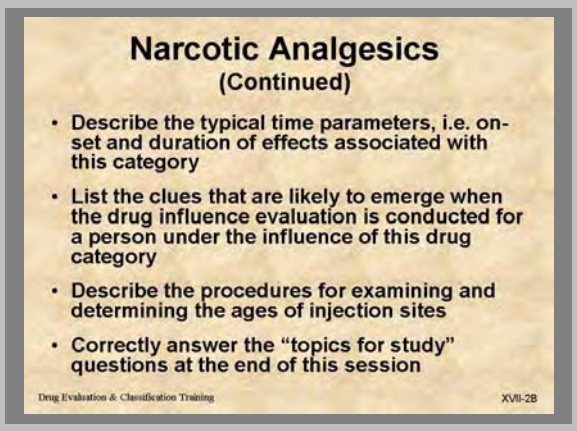
Session 17-1: Narcotic Analgesics



Session 17-2A: Narcotic Analgesics



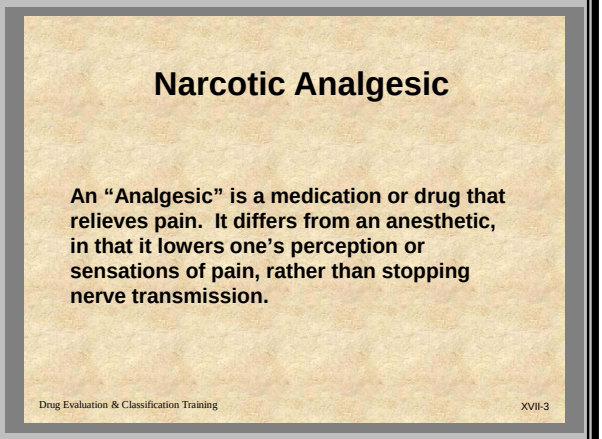
Session 17-2B: Narcotic Analgesics (cont.)



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

A. Overview of the Category

Session 17-3: Narcotic Analgesic



Narcotic Analgesics

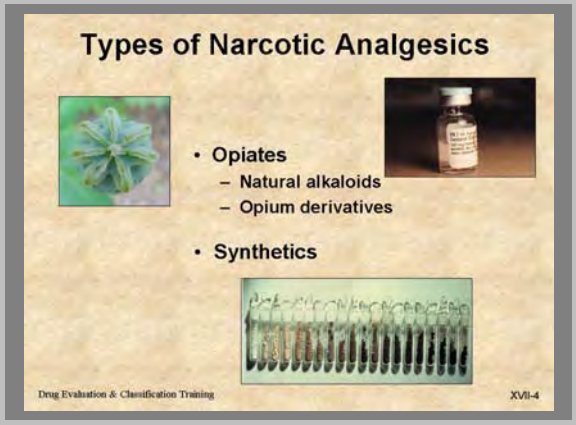
- Point out that this category sometimes is called "The Opioids"; the drugs it contains either are found in Opium, derive chemically from Opium, or produce effects similar to those of the Opium Derivatives.

- The term "Opioid," however, most correctly refers to the synthetic subcategory of Narcotic Analgesics.

Narcotic Analgesic Defined

- A medical term, not a legal or police term.
- An "Analgesic" is a medication or drug that relieves pain. It differs from an anesthetic, in that it lowers one's perception or sensations of pain, rather than stopping nerve transmission.
- Non-Narcotic Analgesics, such as Aspirin, Tylenol, and Motrin, relieve pain, but do NOT produce narcosis, which means numbness or sedation.
    - Clarification: non-Narcotic Analgesics relieve pain, but do not alter mood. Therefore, they, in small amounts, are not psychoactive and are not abused for their mind or mood altering actions.
- A Narcotic is a drug derived from Opium, or produced synthetically that relieves pain, but also induces euphoria, alters mood, and produces sedation.

Session 17-4: Types of Narcotic Analgesics



There are two subcategories of Narcotic Analgesics:

- Opiates: drugs that either contain or are derived from Opium.
- 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."

Opium Derivatives

Opium derivatives are obtained by chemically treating the Opium alkaloid. Opium derivatives are therefore derived from Opium.

The Natural Alkaloids

Alkaloids and the Opium derivatives all come from Opium, which is sap from the seed pods of a particular type of poppy.

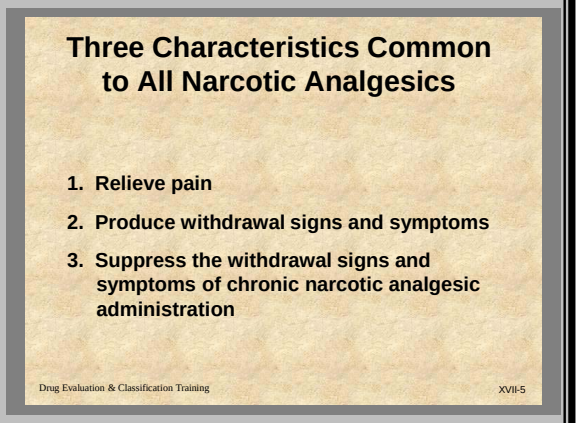
- Note: the Opium poppy, or papaver somniferum (somniferum, Latin for the "carrier of sleep")

An analogy to help students understand the difference between an alkaloid and a derivative would be to compare opium to wheat. The 'alkaloid" of the wheat would be whole wheat flour – a derivative of the wheat would be white flour (wheat flour which as been chemically treated).

Synthetics, which do not derive from Opium at all, 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."

Session 17-5: Three Characteristics Common to All Narcotic Analgesics



Narcotic Analgesics all share three characteristics:

- They all relieve pain.

- Clarification: They produce analgesia.

- They will produce withdrawal signs and symptoms when the user is physically dependent, and drug use is stopped.

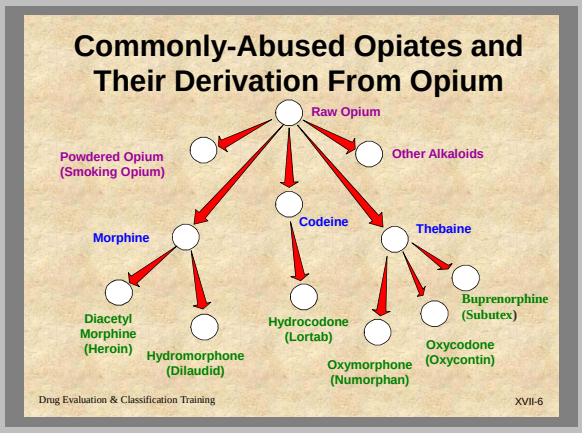
  - Clarification: Physical dependence results from "chronic administration." This means that the drug has been taken at fairly regular intervals for a period of time.

- They will suppress the withdrawal signs and symptoms of chronic narcotic analgesic administration.

  - Morphine is typically used as the standard for comparison with other Narcotic Analgesics.

  - Clarification: This means that the various Narcotic Analgesics can be substituted for each other to relieve withdrawal symptoms.

Session 17-6: Commonly-Abused Opiates and Their Derivation



Point out the chart that is located in the student manual.

Some Commonly Abused Opiates

Powdered Opium

Powdered Opium (also known as smoking Opium).

- A simple refinement of raw Opium.

- Used medically to treat diarrhea (administered orally).

- The development of more effective opiates and synthetics has virtually eliminated its use medically. In recent years, there has been little street use of Opium. It is important to realize, however, that drug use trends can and do change.

- Remains popular as a drug of abuse (smoked) among some Asian-American communities.

Morphine

Morphine, the principal natural alkaloid of Opium.

Instructor, FYI: named after Morpheus, the Greek God of dreams.

- Morphine was first isolated from Opium in 1805.

- Used medically to suppress severe pain (e.g., with terminal cancer patients).

- Highly addictive.

- Morphine was widely used during the Civil War. Morphine addiction was termed "Soldier's disease."

- At one time, Morphine was the most commonly abused Narcotic Analgesic.

Codeine

Codeine is another natural alkaloid of Opium.

- Its technical name is Methylmorphine.

- First isolated in 1832.

- Codeine's pain killing ability is much weaker than Morphine's.

- Used medically to suppress coughing or minor pain.

- Clarification: Narcotic Analgesic addicts often turn to Codeine when they cannot get more popular drugs.

- Codeine is definitely an addictive drug.

Heroin

Heroin is the most commonly abused illicit Narcotic Analgesic.

- Point out that the generic, or technical name for heroin is "Diacetyl Morphine."

Write "Diacetyl Morphine" on the dry erase board or flip-chart.

- Derived from Morphine in 1874.
- Heroin was first thought to be a non-addictive substitute for Morphine.
- It was approved for general use by the American Medical Association in 1906.
- By the 1920's it was evident that Heroin was much more addictive than Morphine.
- Importation and manufacture of Heroin have been illegal in this country since 1925.
- Heroin is a Schedule I drug, which means it has no legitimate medical uses in the United States.

Dilaudid

Dilaudid is another derivative from Morphine.

- Technical Name: Hydromorphone Hydrochloride.
- First produced in 1923.
- Sometimes called "drug store Heroin," since it is commercially available from medical and pharmaceutical sources.
- Dilaudid has the same addictive liabilities as does Heroin or Morphine.
- Used medically for short term relief of moderate to severe pain, and to suppress severe, persistent coughs.
- Can be ingested via injection, orally or in suppositories.

- Sometimes abused by addicts who are unable to obtain Morphine or Heroin.

Hydrocodone

Hydrocodone is derived from Codeine but is more closely related to Morphine in its pharmacological profile.

- Point out that Hydrocodone products are the most frequently prescribed pharmaceutical opiate (Narcotic Analgesic) with over 111 million prescriptions dispensed in 2003. (DEA)

Examples include:

- Hycodan
- Vicodin
    - Note: Vicodin is a commonly prescribed pain reliever containing Hydrocodone and Acetaminophen.
- Lortab

Numorphan

- Technical Name: Oxymorphone.
- Used medically for the relief of chronic pain.
- Sold in ampules (injection) and in suppositories.
- 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.

Thebaine

- An opiate alkaloid derived from opium.
- Not used therapeutically.
- Converted into several drugs including oxycodone and oxymorphone.

Oxycodone

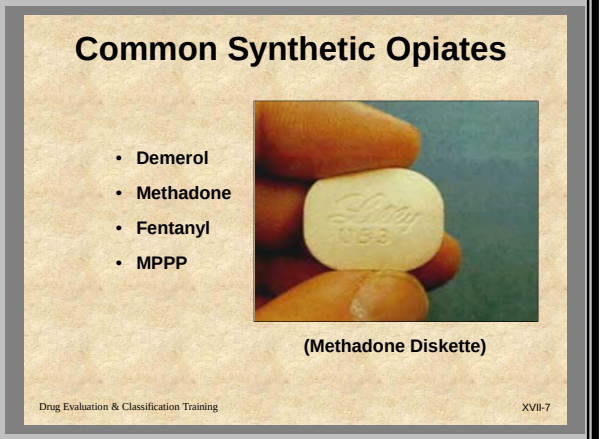
Oxycodone is a semi-synthetic narcotic produced by chemically treating Thebaine. It is somewhat less addictive than Morphine, but more than Codeine. Two examples are:

- Brand Name: OxyContin.
- 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.
- OxyContin is a controlled release tablet that contains large amounts of Oxycodone (10-160mg). Abusers learn to circumvent the slow release mechanism.
- Street names: "Oxy"; "OC"; "Killer."

Buprenorphine

- Buprenorphine is a Thebaine derivative with powerful analgesia approximately twenty five to forty times as potent as morphine and its analgesic effect is due to partial agonist activity at u-opioid receptors.
- Depending on the application form, buprenorphine is normally prescribed for the treatment of moderate to severe chronic pain (pain that has outlived its use to prevent injury and after three months.
- Buprenorphine hydrochloride is normally administered by intramuscular injection, intravenous infusion, via a transdermal patch, or as a sublingual tablet.
- It is not administered orally, due to very high first pass metabolism.

Session 17-7: Common Synthetic Opiates



Some Common Synthetic Opiates

Demerol was first produced in 1939.

- Technical Name: Meperidine.
- Demerol is one of the most widely used Synthetic Opiates for relief of pain and for sedation.
- It is also one of the Narcotic Analgesic that is most frequently abused by medical personnel.
- Demerol is widely used as an analgesic in childbirth.
- 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.
- 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.

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.

- Methadone's effects are similar to Morphine's, although they develop more slowly and last longer than do Morphine's effects.

- 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?"

- Used extensively in "maintenance programs" as a substitute for Heroin for addicts undergoing therapy and treatment.

- Remind students that one characteristic shared by all Narcotic Analgesics is that they suppress withdrawal symptoms of chronic Morphine administration.

- 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 has a much longer duration of effects than Heroin and is not designed to be injected.

- Methadone is also used medically to relieve moderate to severe pain, and to suppress coughing.

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.

- First developed in 1965 as an intravenous anesthetic.

- Legally produced as a pain killer.

- Principal abused analog is "Three-Methyl Fentanyl."

MPPP is an illegally manufactured analog of Demerol.

- MPPP is a powerfully addictive Synthetic Narcotic Analgesic.

- 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.

Methods of Administration

Methods of administration of Narcotic Analgesics vary from one drug to another.

- Some are commonly taken orally.
- Some are smoked.
- Some are snorted (taken intra-nasally).
- Users have stated that the fear of contracting diseases, such as AIDS, from shared needles, has prompted them to either snort or smoke Heroin.

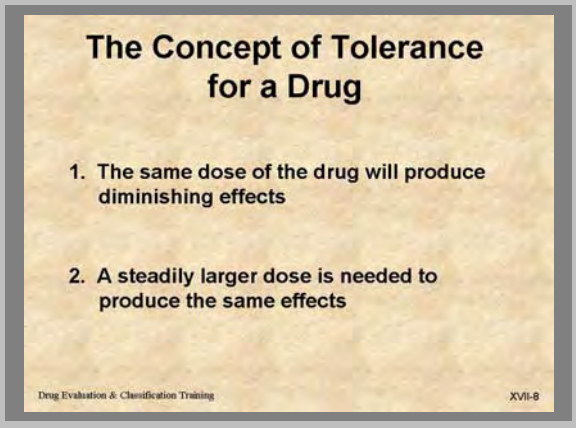
If available, show slides of Heroin injection paraphernalia.

- Some are often administered in suppositories.
- Medically, some Narcotic Analgesics may be administered transdermally or through the skin.
- Fentanyl patches are often used for chronic pain.
- Heroin, and some others usually are taken by injection.

Solicit students' comments and questions concerning this overview of Narcotic Analgesics.

B. Possible Effects

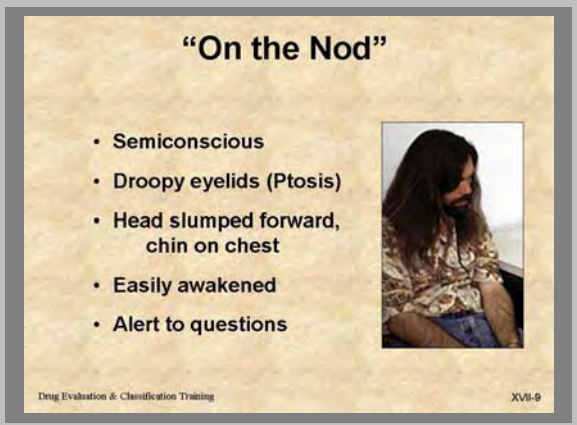
Session 17-8: The Concept of Tolerance for a Drug



As with nearly all drugs of abuse, the effects produced by Heroin or other Narcotic Analgesics depend on the tolerance that the user has developed for the drug.

- People develop tolerance for Narcotic Analgesics fairly rapidly.
- "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.
- 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.
- Emphasize: Habitual users of drugs may develop tolerance to the drug. As a result, they may exhibit relatively little evidence of impairment on the psychophysical tests. Even tolerant drug users, when impaired, usually exhibit clinical evidence (i.e. in the vital signs and eye signs).
- Impairment is more evident with new users, and with tolerant users who exceed their "normal" doses.
    - Clarification: the tolerant addict who has injected his or her "normal dose" of Heroin may appear to be much less impaired than an inexperienced user who had taken the same dose.

Session 17-9: "On the Nod"



Observable Effects

Observable effects of Heroin and other Narcotic Analgesics.

- Sedation – "On the Nod."
- 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.
- The user's eyelids become very droopy.
- Remind students that the technical term for "droopy eyelids" is Ptosis.
- Their head will slump forward until the chin rests on the chest.
- In this condition, the user usually can be aroused easily and will be sufficiently alert to respond to questions.

Other Effects

Note: these effects may be dose-related, and most often occur with non-tolerant users.

- slowed reflexes
- slow and raspy speech
- slow, deliberate movements
- inability to concentrate
- slowed breathing

Instructor, FYI: Technical terms are Hypopnea or Bradypnea.

- skin cool to the touch
- possible vomiting
- itching of the face, arms or body

Solicit students' comments and questions concerning possible effects of Narcotic Analgesics.

C. Onset and Duration of Effects

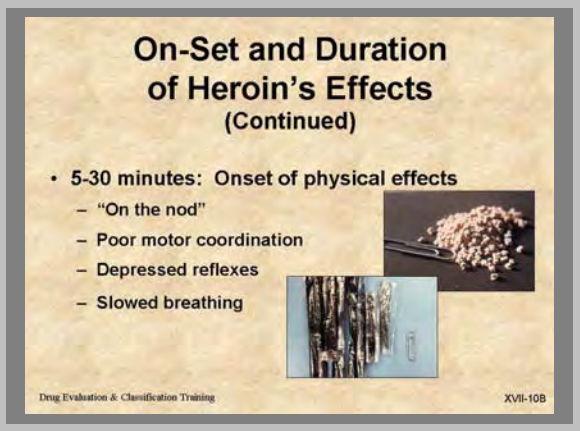
Session 17-10A: On-Set and Duration of Heroin's Effects

Psychological Effects

The psychological effects of Heroin begin immediately after the injection.

- A feeling of pleasure or euphoria.
- 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.
- Relief from the symptoms of withdrawal.
- Relief from pain.

Session 17-10B: On-Set and Duration of Heroin's Effects (cont.)



Observable Signs

- 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.

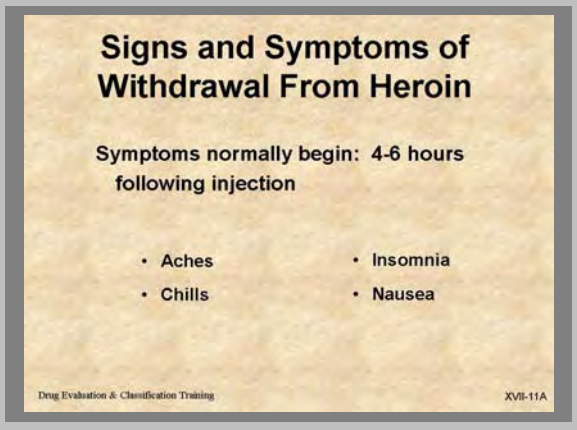
Session 17-10C: On-Set and Duration of Heroin's Effects (cont.)

The effects will usually be observable for up to 4 – 6 hours.

As the drug wears off, withdrawal signs and symptoms start to develop until the addict user injects again.

- Point out that the development of withdrawal symptoms implies that the Heroin has worn off.

Session 17-11A: Signs and Symptoms of Withdrawal from Heroin

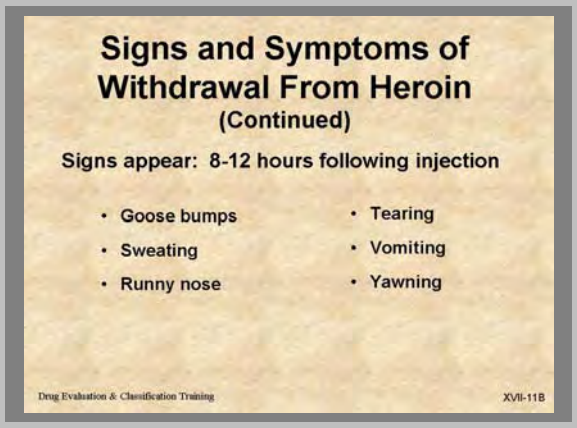


As the effects of Heroin diminish, withdrawal symptoms begin.

- aches
- chills
- insomnia
- nausea

As with nearly all drugs, the withdrawal signs and symptoms are essentially the opposite of the "high" or intoxicated state.

Session 17-11B: Signs and Symptoms of Withdrawal From Heroin



Withdrawal signs start to become observable 8 – 12 hours following injection.

- goose bumps (piloerection) on the skin
- "piloerection" means "hair standing up."
- sweating
- runny nose
- tearing
- vomiting
- yawning

Point out that yawning, tearing, runny nose and vomiting usually appear only after marked withdrawal of many hours.

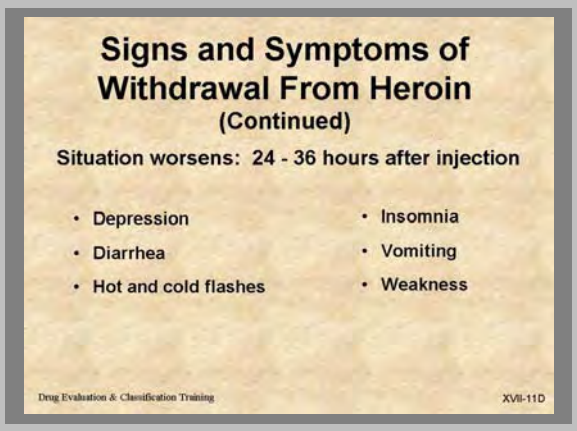
Withdrawal signs and symptoms closely resemble those of Influenza or the common cold.

Session 17-11C: Signs and Symptoms of Withdrawal From Heroin

These symptoms begin to intensify from 14 – 24 hours after injection, and may be accompanied by goose bumps (piloerection), slight tremors, loss of appetite and dilation of the pupils.

- Point out that "withdrawal" signs of Narcotic Analgesics are essentially the opposite of their "under the influence" signs.

Session 17-11D: Signs and Symptoms of Withdrawal From Heroin



Approximately 24 – 36 hours after injection, the addicted user experiences insomnia, vomiting, diarrhea, weakness, depression and hot and cold flashes.

Session 17-11E: Signs and Symptoms of Withdrawal From Heroin

Withdrawal symptoms and signs generally reach their peak 2 – 3 days after injection:

- muscular and abdominal cramps
- elevated temperature
- severe tremors and twitching

Point out that the involuntary tremors and twitching of the legs give rise to the expression "kicking the habit."

The addicted user at this point is nauseated, gags, vomits and may lose 10 – 15 pounds within 24 hours.

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.

- 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 or questions concerning onset and duration of the effects of Narcotic Analgesics.

D. Overdose Signs and Symptoms

Narcotic Analgesics depress respiration.

- In overdoses, the user's breathing will become slow and shallow.

- Death can occur from severe respiratory depression.

- 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.

- 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.

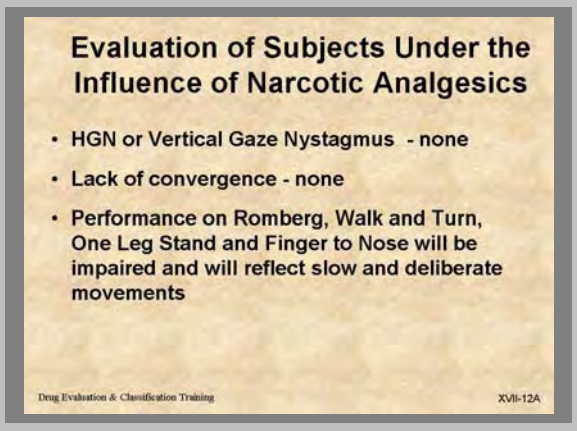
- Point out that a person suffering from Narcotic Analgesic overdose may appear to be in shock.

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.

E. Expected Results of the Evaluation

Session 17-12A: Evaluation of Subjects Under the Influence…



Observable Evidence of Impairment

Neither Horizontal Gaze Nystagmus nor Vertical Gaze Nystagmus will be present.

- But remind students that Nystagmus could be present if the user has taken Heroin and a Dissociative Anesthetic, or alcohol or some other CNS Depressant, or an inhalant.

- Eyes will not exhibit Lack of Convergence.

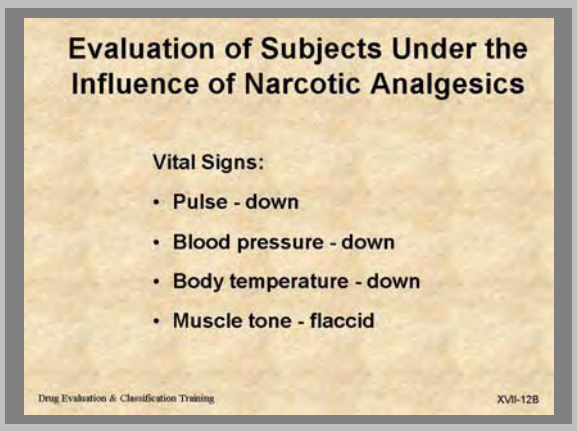
- Performance on the Romberg Balance Test will be impaired. Generally, the subject will appear drowsy, and will have a slow internal clock.

- Point out that, if the user has injected enough Narcotic Analgesic to exceed his or her level of tolerance, his or her performance on the Standardized Field Sobriety Tests will be uncoordinated and "rubber-legged," similar to that caused by CNS Depressants.

Performance on the Walk and Turn and One Leg Stand will be impaired, and will reflect the slow and deliberate movements caused by this category of drugs.

Performance on Finger to Nose will also be impaired. Generally, the subject will appear drowsy, possibly "on the nod," and exhibit slow and deliberate movements.

Session 17-12B: Evaluation of Subjects Under the Influence…



Blood pressure will be down.

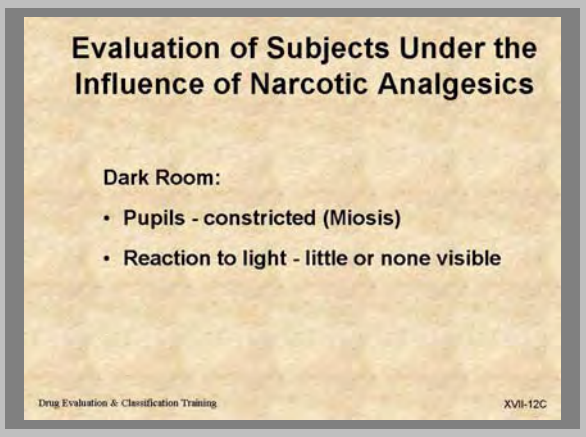
Pulse will be down.

Body temperature will be down.

- Remind students that these cardiovascular indicators may not be present if the subject is a tolerant user who has taken a "normal" dose of the drug.

Muscle tone will be flaccid.

Session 17-12C: Evaluation of Subjects Under the Influence…

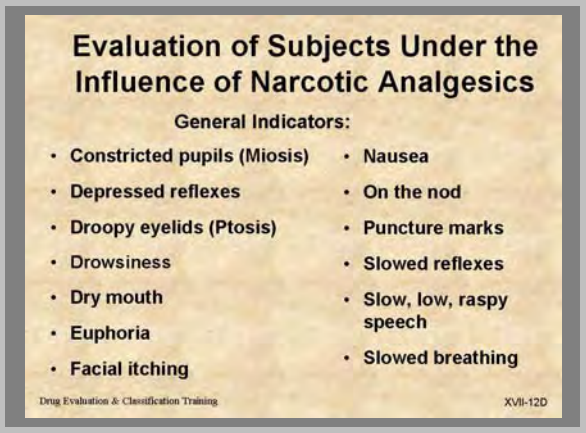


Pupil size generally will be constricted (below 3.0 mm in diameter).

- Point out that constricted pupils are one of the most reliable indicators of a Narcotic Analgesic. The technical term for "constricted pupils" is "Miosis."

Pupil reaction to light will be little or none visible.

Session 17-12D: Evaluation of Subjects Under the Influence…



General Indicators

- constricted pupils
- depressed reflexes
- drowsiness
- droopy eyelids (Ptosis)
- dry mouth
- euphoria
- facial itching
  - Itching – caused by the release of Histamines.
- nausea
- "on the nod"
- puncture marks

If available, show slides of typical addicts' "track" marks.

- slowed reflexes
- slow, low, raspy speech
- slowed breathing

Symptomatology Chart

Session 17-13: Narcotic Analgesic Symptomatology Chart

F. Injection Site Examination

Examination of subject's injection sites can give many clues to their drug habits.

- The slang term for an injection site is a "mark."

Many drugs can be injected.

- The presence of injection sites doesn't ensure the subject is under the influence of drugs. Examination of injection sites is just one of the twelve steps in the evaluation.
- Injection sites are a sign of drug abuse which may or may not be present.
- May be evidence of habitual use.

The trauma to the skin, muscles and the blood is the basic concept of injection sites.

Drugs and medication are injected into the body in three ways:

Legal injections are usually Intramuscular.

- Abbreviated as I/M
- "Intramuscular" is defined as administering by entering a muscle.

Subcutaneous, which means just under the skin.

- Commonly referred to as "skin popping."

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.

- Abbreviated as I/V
- "Intravenous" defined as entering a vein.

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 could go into a coma.

The primary instrument for injection is the hypodermic syringe.

- It consists of a hollow needle, a tube and a plunger.
- Needles vary in size, with the primary variance being the inside diameter of the needle or the gauge.
- A 26 gauge needle is used by a diabetic.
- The greater the number the larger the gauge, the smaller the inside diameter of the needle.
- 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.

The user's equipment is commonly referred to as a "hype kit" or "works."

- 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. Other parts of the "kit" include:
- A handle to hold the "cooker" over the flames.
- Matches, lighters (primarily disposable, adjustable flame types) used to heat the substance in the "cooker."

- 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.

"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.

As a DRE, you may be asked in court to describe the difference between a legal and illegal injection site.

- The legal mark is usually intramuscular. Some exceptions would be in an emergency, blood donation or lab tests.

- There may be multiple injections, if the technician is unable to find a vein during the first try.

- Usually there will be only one mark and it will be larger than the typical illegal injection.

- Legal injections are made with new, sterile needles.

The illegal mark is usually over a vein.

- Abbreviated as O/V

- 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.

- 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.

Since the used needles make it more difficult to pierce the skin and vein, the injection sites may be jagged.

- A barbed needle may tear the skin on the way in and on the way out.

- Use of old, dirty and shared needles cause the spread of infections and diseases such as AIDS.

- ALWAYS WEAR PROTECTIVE GLOVES PRIOR TO CONDUCTING THE EXAMINATION.

Users may frequently use the same spot to inject, as an attempt to reduce their likelihood of detection.

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.

- 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.

Basic Principles of Puncture Healing

The healing is greatly retarded.

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(s) site).

These dried remains fill the gap caused by the puncture of the skin. As the fluids dry they harden (clot and gel).

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.

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.

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."

There is no exact science to classifying the age of puncture wounds. Some general guidelines are:

Session 17-14A: Classifying the Age of Puncture Wounds

- Fresh puncture wounds are defined as under 12 hours after injection and will be a red dot and have an oozing appearance or blood crater with no scab formation.

- Early puncture wound is 12 – 96 hours (half day to 4 days) after injection. It will have a light scab, light bruise, reddened border and a crater appearance.

Session 17-14B: Classifying the Age of Puncture Wounds

- Late puncture wound is 5 – 14 days old and will have a dark scab, dark bruise and the crater will flatten.

- Healing puncture wound is over 14 days. The scab will be flaking and falling off with shriveled light colored skin underneath.

Other Indicators of Injection Sites

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.

- 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.

- 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 referred 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.

G. Expected Location of Injection Marks

Prior to conducting the injection site examination, always remember to wear gloves.

Injection sites may be located anywhere on the subject's body.

Conduct a thorough, slow, methodical examination of the subject's arms beginning with the left.

- 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 magnification light.

- Beginning at the bicep slowly examine the arm. Document the findings of your examination.

- 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.

- Next examine the outer arm as it is extended palm facing downward. Start the examination at the shoulder moving to the wrist.

- 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.

Conduct the entire procedure for the right side.

Ankles are the next most common injection area.

- Subject should be instructed to remove their shoes and socks to allow the DRE to examine them for puncture wounds.

- The most common area is on the back of the foot.

Subject's sometimes hide hypodermic needles in their socks, shoes and the heel compartments of their shoes.

On a case by case basis, the DRE may need to examine other parts of the body for marks.

- ALWAYS follow your agencies rules, policies and procedures and laws regarding invasive type searches.

H. Conclusion

The injection site examination may reveal evidence of recent use.

- Point out that DREs may want to photograph new or recent injection marks for evidential purposes.

The presence of marks, however, doesn't mean drug influence or impairment at the time of the evaluation.

Conducting an injection mark examination is a skill. As with all skills, such as taking blood pressure, competency improves with practice.

Demonstrations

Video Demonstrations

- Relate behavior/observations to the Symptomatology Chart.

Show video of subject(s) under the influence of Narcotic Analgesics

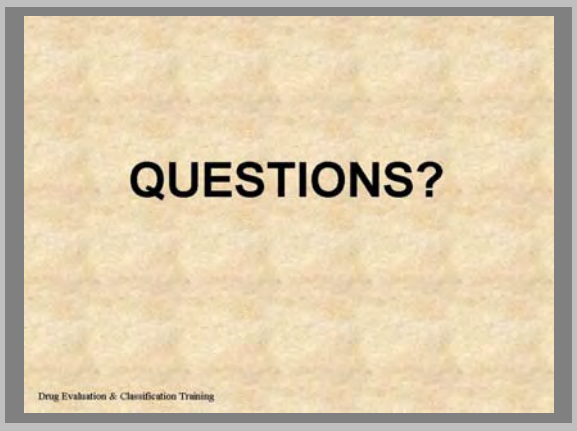
Drug Evaluations and Classification Exemplar Demonstrations

Refer students to the exemplars found at the end of Section XVII of their manuals.

Point out that the one-page narrative in the example exemplars are not to be construed as the recommended or approved report. The actual narrative report submitted by DREs will be more detailed.

Solicit students' comments or questions concerning Expected Results of the Evaluation.

Session 17-15: Questions



Solicit students' comments and questions concerning the injection site examination.

DRUG INFLUENCE EVALUATION

Evaluator: Karl Nieberlein, Sparks Police Department	DRE #: 6176	Rolling Log #: 10-08-014	**Session XVII-#1**
Recorder/Witness: Sgt. Mac Venzon, Reno PD	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-44745
Arrestee's Name (Last, First, Middle): Vaughn, Gerald T.	Date of Birth: 5/14/80	Sex: M	Race: B
Arresting Officer (Name, ID#): Officer Rich Gamwell, Sparks PD #1844			
Date Examined / Time /Location: 08/24/10 1805 Washoe Co. Jail	Breath Results: Results: 0.00 Test Refused ☐ Instrument #: 15344		Chemical Test: Urine ☐ Blood ☒ Test or tests refused ☐

Miranda Warning Given: Given By: Ofc. Gamwell	☒ Yes ☐ No	What have you eaten today? When? Nothing N/A	What have you been drinking? How much? Dr. Pepper N/A	Time of last drink? N/A
Time now/ Actual: 7:00 PM/1810	When did you last sleep? How long: Last night 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 "Methadone"	Attitude: Cooperative, passive	Coordination: Relaxed, slow, unstable		
Speech: Low, raspy	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy	

Pulse and time

1. 56 / 1817
2. 58 / 1825
3. 58 / 1832

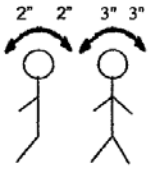
HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	No	No
Maximum Deviation	No	No
Angle of Onset	None	None

Convergence — Right eye / Left eye

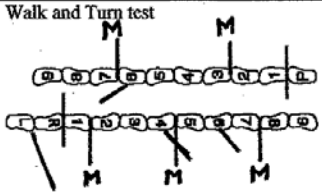
36 ONE LEG STAND 35

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

Romberg Balance



Walk and Turn test

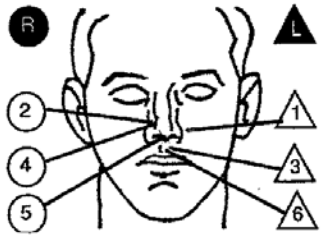


Slow, deliberate steps

	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon		
Stops walking		
Misses heel-toe	✓✓✓	✓✓
Steps off line	✓✓	✓
Raises arms	✓✓	✓
Actual steps taken	9	9

Internal clock: 44 estimated as 30 seconds	Describe Turn: Slow, deliberate	Cannot do test (explain): N/A	Type of footwear: Lace-up boots

Draw lines to spots touched



Slow movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.0	2.0	2.0
Right Eye	2.0	2.0	2.0

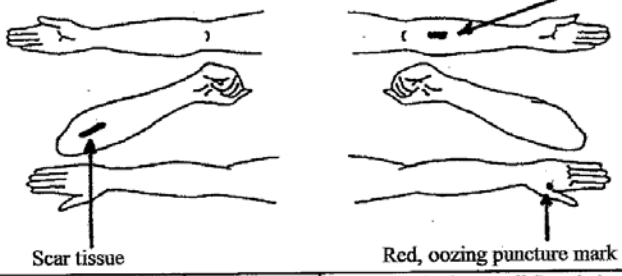
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: None

RIGHT ARM **LEFT ARM** Scar tissue



Blood pressure	Temperature
110/64	98.0

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using? "Just methadone, man"	How much? "The normal"	Time of use? 3PM	Where were the drugs used? (Location) "The clinic
Date / Time of arrest: 08/24/10 1720	Time DRE was notified: 1745	Evaluation start time: 1805	Evaluation completion time: 1900	Precinct/Station:
Officer's Signature:	DRE #: 6176	Reviewed/approved by / date:		

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Vaughn, Gerald T.

1. **LOCATION:** The evaluation was conducted at the Washoe County Jail.

2. **WITNESSES:** Sergeant Mac Venzon of the Reno P.D witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Vaughn's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and requested 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 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 2" front to back and 3" side to side. He estimated 30 seconds in 44 seconds. Walk and 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 three times and used his arms for balance. One Leg Stand: Suspect counted slowly, swayed and used his arms for balance. He put his foot down once while standing on the left foot and twice when standing on the right foot. Finger to Nose: Suspect missed the tip 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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Sr. Trooper Jim Pierce, Oregon State Police	DRE # 004600	Rolling Log # 10-017	**Session XVII- #2**
Recorder/Witness: Sgt. Mike Iwai, Oregon State Police	Crash: ☐ None ☐ Fatal ☒ Injury ☐ Property		Case # 10-25250
Arrestee's Name (Last, First, Middle): Bursten, David L	Date of Birth: 4/20/80	Sex: M	Race: W
Arresting Officer (Name, ID#): Officer Darke Hull, Portland Police Bureau #12581			
Date Examined / Time /Location: 06/01/10 8:40 pm Central Precinct	Breath Results: Results: 0.00	Test Refused ☐ Instrument #: 21250	Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: Given By: Ofc. Hull	☒ Yes ☐ No	What have you eaten today? When? Nothing N/A	What have you been drinking? How much? Nothing N/A	Time of last drink? N/A
Time now/ Actual: Don't know	When did you last sleep? How long: Last night "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, sluggish, stumbling		
Speech: Slow and deliberate	Breath Odor: Normal	Face: Normal		
Corrective Lenses: ☒ None ☐ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy	

Pulse and time

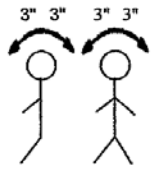
1. 58 / 8:50
2. 56 / 9:05
3. 54 / 9:20

HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	No	No
Maximum Deviation	No	No
Angle of Onset	None	None

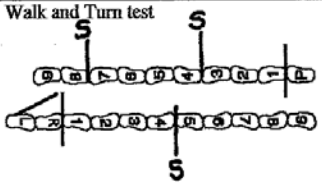
Convergence (Right eye / Left eye)

20 ONE LEG STAND 22

Romberg Balance



Walk and Turn test



Walked slowly

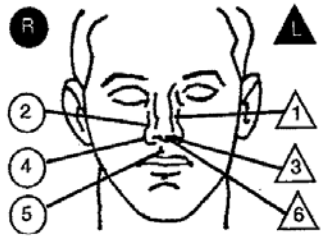
	1st Nine	2nd Nine
Cannot keep balance	✓	
Starts too soon		
Stops walking	✓	✓✓
Misses heel-toe		
Steps off line		
Raises arms	✓✓	✓✓✓
Actual steps taken	9	9

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

Counted slowly

Internal clock: 58 estimated as 30 seconds	Describe Turn: Lost balance, staggered to the left	Cannot do test (explain): N/A	Type of footwear: Loafers

Draw lines to spots touched



Slow movements

PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.0	2.0	2.0
Right Eye	2.0	2.0	2.0

Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

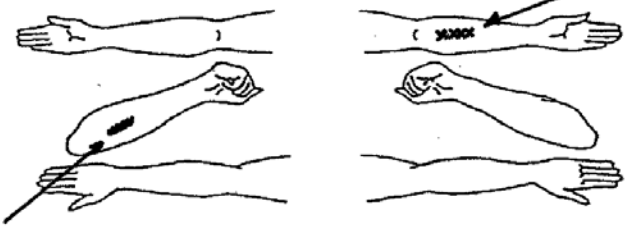
REACTION TO LIGHT: None visible

Blood pressure	Temperature
108/60	97.0

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments: Arms and neck very relaxed

RIGHT ARM **LEFT ARM** 4 puncture wounds



Scar tissue

What drugs or medications have you been using? None	How much? Refused	Time of use? Refused	Where were the drugs used? (Location) Refused

Date / Time of arrest: 06/01/10 8:05 pm	Time DRE was notified: 8:20 pm	Evaluation start time: 8:40 pm	Evaluation completion time: 9:50 pm	Precinct/Station: Central
Officer's Signature:	DRE # 004600	Reviewed/approved by / date:		

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Bursten, David L.

1. **LOCATION:** The evaluation was conducted at the PPB Central Traffic Precinct.

2. **WITNESSES:** Sgt Niiya of the Portland Police Bureau witnessed the evaluation.

3. **BREATH ALCOHOL TEST:** Bursten's breath test was 0.00%.

4. **NOTIFICATION AND INTERVIEW OF THE ARRESTING OFFICER:** Writer was contacted and advised to contact Sgt. Niiya and Officer Darke Hull for a drug evaluation. Officer Hull 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. Officer Hull 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 and was arrested for DUI.

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 in two of the three lighting levels.

9. **SIGNS OF INGESTION:** Suspect had scars on his right forearm and fresh puncture wounds on the inside of his left 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.

13. **MISCELLANEOUS:** Rev. 10/10

DRUG INFLUENCE EVALUATION

Evaluator: Lt. Tim Tomczak, Raleigh P.D.	DRE # 9139	Rolling Log # 10-031	**Session XVII - #3**
Recorder/Witness: Brian Smith, NC DRE State Coordinator	Crash: ☒ None ☐ Fatal ☐ Injury ☐ Property		Case # 10-35125
Arrestee's Name (Last, First, Middle): Sheehan, Thomas	Date of Birth: 5/16/76	Sex: M	Race: W
Arresting Officer (Name, ID#): Sgt. Brandon Craft, North Carolina H.P. #7745			
Date Examined / Time /Location: 03/17/10 2210 Raleigh PD Intake	Breath Results: Results: 0.00 Test Refused ☐ Instrument #: 4200		Chemical Test: Urine ☒ Blood ☐ Test or tests refused ☐

Miranda Warning Given: Given By: Sgt. Craft	☒ Yes ☐ No	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/ Actual: 8 PM/2215 hours	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: Slow, stumbling, staggering		
Speech: Slow, raspy	Breath Odor: Normal	Face: Pale		
Corrective Lenses: ☐ None (removed glasses) ☒ Glasses ☐ Contacts, if so ☐ Hard ☐ Soft	Eyes: ☐ Reddened Conjunctiva ☒ Normal ☐ Bloodshot ☐ Watery	Blindness: ☒ None ☐ Left ☐ Right	Tracking: ☒ Equal ☐ Unequal	
Pupil Size: ☒ Equal ☐ Unequal (explain)	Vertical Nystagmus ☐ Yes ☒ No	Able to follow stimulus ☒ Yes ☐ No	Eyelids ☐ Normal ☒ Droopy very	

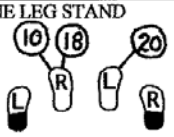
Pulse and time

1. 60 / 2220
2. 58 / 2235
3. 58 / 2258

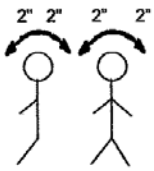
HGN	Left Eye	Right Eye
Lack of Smooth Pursuit	No	No
Maximum Deviation	No	No
Angle of Onset	None	None

Convergence (Right eye, Left eye)

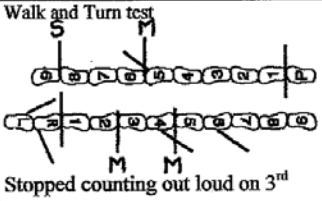
24 ONE LEG STAND 26



Romberg Balance



Walk and Turn test



Stopped counting out loud on 3rd step

	1st Nine	2nd Nine
Cannot keep balance	✓✓	
Starts too soon		
Stops walking		✓
Misses heel-toe	✓✓	✓
Steps off line	✓✓	✓
Raises arms	✓	✓✓✓
Actual steps taken	9	9

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

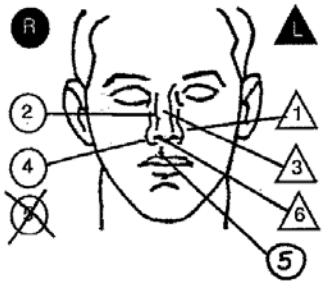
Internal clock: 55 estimated as 30 seconds

Describe Turn: As instructed, slow

Cannot do test (explain): N/A

Type of footwear: Dress shoes

Draw lines to spots touched



PUPIL SIZE	Room light 2.5 – 5.0	Darkness 5.0 – 8.5	Direct 2.0 – 4.5
Left Eye	2.5	3.0	1.5
Right Eye	2.5	3.0	1.5

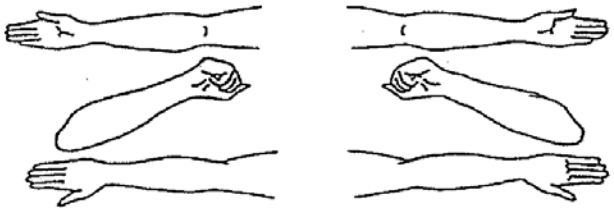
Nasal area: Clear

Oral cavity: Clear

REBOUND DILATION ☐ Yes ☒ No

REACTION TO LIGHT: Little to none visible

RIGHT ARM **LEFT ARM**



None observed

Blood pressure	Temperature
112/64	97.7

Muscle tone: ☐ Normal ☒ Flaccid ☐ Rigid

Comments:

What drugs or medications have you been using?	How much?	Time of use?	Where were the drugs used? (Location)
"Nothing"	"I don't do drugs"	"I didn't"	No answer

Date / Time of arrest:	Time DRE was notified:	Evaluation start time:	Evaluation completion time:	Precinct/Station:
03/17/10 2105	2130	2210	2315	

Officer's Signature: DRE # 9139 Reviewed/approved by / date:

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

DRUG INFLUENCE EVALUATION NARRATIVE

Suspect**:** Sheehan, Thomas

1. **LOCATION:** The evaluation was conducted at the Raleigh Police Department.

2. **WITNESSES:** The A/O; Sgt. Brandon Craft of the North Carolina Highway Patrol recorded the evaluation. Brian Smith, 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 requested 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 side to side 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:** Two of the suspect's three pulse rates were below the normal range. His blood pressure was below the normal range. His pupils were constricted in two of the three lighting levels. He had 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 container of Vicodin was located in the suspect's vehicle.

Rev. 10/10

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 Methadone?

   A drug used extensively in maintenance programs as a substitute for heroin.

6. An analgesic is a drug that _____?

   Relieves pain

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.

2 Hours and 30 Minutes

MID-COURSE REVIEW

MID-COURSE REVIEW

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

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

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Drugs, Drug Categories and the Drug Influence Evaluation	▪ Instructor / Student Dialogues
B. Eyes and Vital Signs	▪ Student-Led Demonstrations
C. Physiology	
D. Questions and Answers	