

DRUGS THAT IMPAIR DRIVING

PARTICIPANT'S MANUAL

SESSION I

INTRODUCTION, OVERVIEW & DRUGS IN SOCIETY

SESSION I INTRODUCTION, OVERVIEW & DRUGS IN SOCIETY

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

- o State the goals and objectives of the course
- o Define the term "drug" in the context of DWI enforcement.
- o Name the seven categories of drugs.
- o Describe the observable signs generally associated with the seven drug categories.
- o Describe medical conditions and other situations that can produce similar signs.

Content Segments

Learning Activities

- | | |
|--|--------------------------------|
| A. Overview | o Instructor-Led Presentations |
| B. Objectives | o Instructor-Led Presentations |
| C. Definition of a "Drug" | o Instructor-Led Presentations |
| D. Overview of the seven drug categories | o Instructor-Led Presentations |

A. Overview

This session is to improve your ability to recognize suspects who may be medically impaired or under the influence of drugs other than alcohol.

Alcohol remains the most frequently abused drug. It is not uncommon for impaired drivers under the influence of alcohol to also be under the influence of other drugs at the same time.

It is likely that experienced police officers have encountered suspects who were under the influence of drugs other than alcohol. Depending upon the specific types of drugs the suspect has taken, some may appear similar to persons who are under the influence of alcohol. Other suspects will look and behave differently from the alcohol-impaired driver.

It is important that you be able to recognize suspects that may be under the influence of other drugs, so that you will know when to summon assistance from physicians, trained Drug Recognition Experts (DRE's) or other appropriate persons.

B. Goals and Objectives

1. Goal:

- a. To identify and apprehend individuals who are impaired by drugs.

2. Objectives:

- a. To recognize impairment associated with drug use.
- b. To define "drug" as it relates to highway safety.
- c. To identify the **seven drug categories** and recognize the major observable indicators.
- d. To successfully document the impaired driving arrest.

This session **will not** accomplish nor qualify you to perform the functions of a Drug Recognition Expert (DRE). Officers become certified DRE's only upon completion of a very challenging program that includes nine days of classroom training and many weeks of closely supervised on-the-job training.

C. Definition of a “drug”

The word "drug" means many things to many people. The word is used in a number of different ways, by different people, to convey some very different ideas.

For example, the corner druggist and the U.S. Drug Enforcement Administration (DEA) are both concerned with "drugs", but they don't have exactly the same thing in mind when they use the word "drug". The druggist and DEA agent do not have the same perspective as the DWI enforcement officer.

For our purpose, a drug is:

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

This definition excludes some substances that physicians consider to be drugs. This definition also includes some substances that physicians do not usually consider as a drug. Examples are airplane glue and paint.

Drugs are organized into seven categories based on the physiological effects that the drugs produce.

The seven drug categories:

Central Nervous System (CNS) Depressants

Central Nervous System (CNS) Stimulants

Hallucinogens

Dissociative Anesthetics

Narcotic Analgesics

Inhalants

Cannabis

No one knows precisely how many people operate motor vehicles while under the influence of drugs, or how many crashes, deaths and injuries these people cause. But even the most conservative estimates suggest that America's drug-impaired drivers kill thousands of people each year, and seriously injure tens of thousands of others. There are numerous studies that illustrate these facts. They include:

- Maryland (1986) - 32 percent of crash-injured drivers had evidence of marijuana in their blood.

- University of Tennessee (1988) - 40 percent of crash-involved drivers treated at the University's Trauma Center had drugs other alcohol in their urine.
- NHTSA (Terhune, Ippolito, Hendricks et al., 1992) - 1,882 operators involved in fatal crashes in three states were tested for alcohol and 43 other drugs. Alcohol was the most prevalent drug detected in 51.5 percent of the crashes, while other drugs were involved in 17.8 percent of the crashes.
- Washington State (Schwilke, et al 2006) - the results of tests of blood and/or urine from 370 fatally injured drivers revealed that marijuana was the most encountered drug (12 percent), followed by benzodiazepines (5.1 percent), cocaine (4.8 percent) and amphetamines (4.8 percent).

How about people who drive under the influence of alcohol and other drugs that are not involved in crashes? A 2002 survey (National Survey on Drug Use and Health) revealed that one in seven Americans aged 12 years or older (14.2 percent or 33.5 million people) admitted driving under the influence of alcohol at least once in the past year. The same survey also revealed that in 2003, an estimated 19.5 million Americans, or 8.2 percent of the population aged 12 years or older, were current illicit drug users, and that marijuana was the most commonly used illicit drug, with a rate of 6.2 percent (14.6 million) in 2003.

Monitoring the Future, a national survey of high school students conducted in 2003 by the University of Michigan and the White House anti-drug czar's office concluded that one in six high school seniors had admitted to having driven while they were high on drugs.

In 2003, an estimated 11 million people reported driving under the influence of an illicit drug during the past year. As many as 18 percent of 21 year-olds reported having driven under the influence of drugs at least once during the past year. (NSDUH Report: Drugged Driving, 2003 Update)

SESSION II

SEVEN DRUG CATEGORIES AND
MAJOR INDICATORS OF IMPAIRMENT

SESSION II SEVEN DRUG CATEGORIES AND MAJOR INDICATORS OF
 I IMPAIRMENT

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

- o Overview the major indicators of impairment
- o Name examples of the drugs in each of the seven categories
- o Identify the indicators of impairment associated with each drug category
- o Describe medical clues that mimic drug impairment

CONTENT SEGMENTS

- A. Major Indicators of Impairment
- B. Drug Categories

LEARNING ACTIVITIES

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

THE SEVEN DRUG CATEGORIES AND MAJOR INDICATORS OF IMPAIRMENT

A. Major indicators of impairment.

All drugs affect the body in a predictable fashion with different categories affecting the body differently.

As you conduct your investigation, you will see signs and symptoms that indicate the suspect is under the influence of drugs other than alcohol. The documentation of your observations will be crucial to convincing court testimony. At the end of Session II, a sample Field Note Sheet is included to assist you in documenting your observations.

DIVIDED ATTENTION PSYCHOPHYSICAL TESTS

During the examination you will collect the evidence that will establish whether the suspect, at that moment, is impaired and cannot operate a vehicle safely. It is common knowledge to judges, juries and police officers that safe driving demands that operators of vehicles are able to attend properly to many things at the same time. We have to be able to steer and control the accelerator and look for other traffic and identify stop signs and signal lights, and on and on.

This means that we have to be able to divide our attention among all of the individual tasks that constitute driving a vehicle. One thing all drugs have in common is that they impair a person's ability to divide their attention. Drugs simply make it very difficult for people to handle several tasks at the same time. People who are impaired by drugs won't be able to perform these tests very well, and the mental and physical mistakes they make will go a long way toward convincing the judge and/or jury that the suspect was in fact impaired.

You should always use the SFST test battery as you were previously instructed. When drug impairment is suspected the Romberg Balance test is an additional test that can be used to evaluate the suspect. All these tests are **STANDARDIZED**, in their administration, documentation and interpretation. This means we always give exactly the same instructions to the suspect when we use these tests; we always record the suspects' performance in a prescribed manner; and always look for a specific set of clues to determine to what extent the suspect is impaired.

The Three Standardized Tests Are:

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

In the event drug impairment is suspected the **Romberg Balance** test should be administered to evaluate the suspect's internal clock.

The tests are in the sequence in which they should be administered.

Three of the tests, namely the Horizontal Gaze Nystagmus (HGN), Walk and Turn and the One Leg Stand, have been scientifically validated. That means the tests were subjected to controlled research, involving hundreds of volunteer drinkers, in which it was demonstrated that they could reliably discriminate between impaired and unimpaired subjects. That same research program demonstrated the scientific validity of horizontal gaze nystagmus for identifying alcohol impairment. The other test, Romberg Balance, has not been subjected to the same scientific scrutiny causing it not to be validated. Saying a test is not validated is not the same as saying the test is invalid. Properly administered and recorded the Romberg Balance produces very important and credible evidence of a suspects' impairment.

HORIZONTAL GAZE NYSTAGMUS (HGN)

This is the first of the three standardized field sobriety tests that you will administer to the suspect. Nystagmus is the involuntary jerking of the eyes. HGN is a very reliable field sobriety test by itself (77%). The test requires the suspect to follow a stimulus that is moved in front of the suspect's face.

Administrative Procedures

- o Have the suspect remove their glasses if they are wearing them.
- o Tell the suspect to put their feet together and place their hands at their sides.
- o Tell the suspect to keep their head still during the test.
- o Tell the suspect to look at the specific stimulus.
- o Tell the suspect to follow the movement of the stimulus with their eyes only.

- o Tell the suspect to continue looking at the stimulus until they are told that the test is over.
- o Position the stimulus approximately 12 to 15 inches in front of the suspects nose, and slightly above eye level to commence the test.
- o Check for equal tracking of the eyes.
- o Check for equal pupil size and check for resting nystagmus.
- o Check the eyes for lack of smooth pursuit. Always starting with the suspect's left eye.
- o Check the eyes for distinct and sustained nystagmus at maximum deviation. Start with the left eye.
- o Check the eyes for the onset of nystagmus prior to 45 degrees. Start with the left eye.
- o Total the clues.
- o Check for Vertical Nystagmus.

DOCUMENTING THE TEST

Three validated clues of impairment have been established for the Horizontal Gaze Nystagmus test.

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

A minimum of four clues are needed to determine if the suspect's B.A.C. level is above 0.10 percent.

WALK AND TURN

This test should already be very familiar to you from your previous training. The test requires the suspect to stand in a heel-to-toe position with arms at the sides while a series of instructions are given. Then, the suspect must take nine heel-to-toe steps along a line, turn in a prescribed manner, and take another nine heel-to-toe steps along the line. All of this must be done while counting the steps out-loud and keeping the arms at the sides. The suspect should not stop walking until the test is completed.

Administrative Procedures

- o Tell the suspect to place their left foot on the line.
- o Tell the suspect to place the right foot on the line, in front of the left foot, with the heel of the right foot against the toe of the left foot. **DEMONSTRATE** the heel-to-toe stance.
- o Tell the suspect to put their arms down against their sides, and to keep them there throughout the entire test.
- o Tell the suspect that they are to maintain this position while you give the instructions. **EMPHASIZE** that the suspect must not start walking until you say to "begin".
- o Ask the suspect if they understand.

NOTE: If at any time while you are giving the rest of the instructions the suspect should break away from the heel-to-toe stance, stop giving instructions until they resume the stance.

- o Tell the suspect that, when you say to "begin", they must take nine heel-to-toe steps, turn around, and take nine heel-to-toe steps back.
- o Tell the suspect that every time they take a step, the heel must be placed against the toe of the other foot. **DEMONSTRATE** several heel-to-toe steps.
- o Tell the suspect that, when the ninth step has been taken, they must leave the front foot on the line, and turn around using a series of small steps with the other foot. **DEMONSTRATE** a proper turn.
- o Remind the suspect that, after turning, they must take another nine heel-to-toe steps up the line.
- o Tell the suspect to watch their feet at all times, count the steps out loud, and keep the arms down at the sides.
- o Tell the suspect that, once they start walking, not to stop walking until the test has been completed.
- o Ask the suspect if they understand.
- o Tell the suspect to "begin".

DOCUMENTING THE TEST

Eight validated clues of impairment have been identified for the Walk and Turn test. Two clues apply while the suspect is standing heel-to-toe and listening to the instructions:

- o Cannot keep balance (i.e., suspect breaks away from the heel-to-toe stance)
- o Starts too soon (i.e., suspect starts walking before you say "begin")

At the top of the checklist portion of the Walk and Turn segment of the standardized note guide, you will record the number of times these two clues were observed while you were giving the instructions. For example, if the suspect breaks away from the heel-to-toe stance twice, put two check marks in the "Cannot keep balance" block.

The other **six** validated clues apply during the walking stage of the test. They are:

- o Stops walking
- o Misses heel-to-toe
- o Steps off the line
- o Raises the arms while walking
- o Takes the wrong number of steps
- o Turns improperly

In the checklist area, you will record the first five of those, separately for the first nine steps and the second nine steps. Below the checklist area, you will describe how the suspect turned. If they turned in the appropriate fashion, simply write "proper" in that space. If the suspect "staggered to the left" or executed an "about face" turn, write that description in the space.

If the suspect was unable to begin or complete the test, explain why. Usually, this will be due either to a physical infirmity that precludes the test entirely (e.g., "suspect has an artificial left leg") or to your decision to stop the test (e.g., "suspect is in danger of being injured due to the lack of balance"). Whatever the case might be, some reason must be documented for a test that wasn't given or completed.

ONE LEG STAND

This test requires the suspect to stand on one leg. The other leg is to be extended in front of the suspect in a stiff-leg manner, with the foot held approximately six inches above and parallel with the ground. The suspect is to stare at the elevated foot, and count out loud, in this fashion: "one thousand and one, one thousand and two, one thousand and three, ..." and so on until told to stop. You will time the test and terminate it at the end of 30 seconds.

Administrative Procedures

- o Tell the suspect to stand with their feet together and the arms down at the sides.
- o Tell the suspect to maintain that position while you give the instructions; emphasize that they should not try to perform the test until you say to "begin".
- o Ask the suspect if they understand.
- o Tell the suspect that, when you say to "begin", they must raise either leg in a stiff-leg manner, and hold the foot approximately six inches off the ground, with the toe pointed forward so that the foot is parallel with the ground.
- o **DEMONSTRATE** the proper one-legged stance.
- o Tell the suspect that they must keep the arms at the sides and must keep looking directly at the elevated foot, while counting in the following fashion: "one thousand and one, one thousand and two, one thousand and three", and so on until told to stop.
- o Ask the suspect if they understand.
- o Tell the suspect to "begin".

NOTE: It is important that this test last for thirty seconds. You must keep track of the time. If the suspect counts slowly, you will tell him or her to stop when thirty actual seconds have gone by, even if, for example, the suspect has only counted to "one thousand and twenty". On the other hand, if the suspect is counting rapidly, tell them to keep counting until you say to stop.

Indicate/record the suspects actual internal clock time and direct the suspect to continue counting until the actual thirty seconds is consumed then stop that portion of the test. The suspect shall, perform the counting as well as being timed by the evaluator.

DOCUMENTING THE TEST

Four validated clues of impairment have been identified for the One Leg Stand:

- o Sways while balancing
- o Uses arms to balance
- o Hopping
- o Puts foot down

You will place check marks in or near the small boxes to indicate how many times you observed each of the clue. You should further indicate at which point the clues were observed, i.e., 0-10 seconds, 11-20 seconds or 21-30 seconds.

You must pay attention to the suspects general appearance and behavior while they perform this test. Take note of any body tremors or muscle tension that may be apparent. Listen for any unusual or "interesting" sounds or statements the suspect might make while the test is in progress. Make sure that any such information is documented on a SFST Field Note Sheet or in your narrative report.

ROMBERG BALANCE

This test requires the suspect to stand with both feet together, the head tilted slightly back, the eyes closed and estimate the passage of thirty seconds. When the suspect believes that the thirty seconds have passed, they are to tilt the head forward, open their eyes and say "stop".

Administrative Procedures

- o Tell the suspect to stand with the feet together and the arms down at the sides.
- o Tell the suspect to maintain that position while you give the instructions. Emphasize that they must not start the test until you say "begin".
- o Ask the suspect if they understand so far.
- o Tell the suspect that, when you tell them to, they must tilt their head back slightly and close their eyes. **DEMONSTRATE** how the head should be tilted back, but **DO NOT CLOSE YOUR EYES** while demonstrating.
- o Tell the suspect that when you say "start", they must keep their head tilted back with the eyes closed until they think that thirty seconds have gone by. **DO NOT** tell the suspect to "count to thirty seconds" or to use any other specific procedure to keep track of time.

But on the other hand, DO NOT tell the suspect that they are not allowed to count to thirty seconds. SIMPLY SAY, "keep your head tilted back with your eyes closed until you think that thirty seconds have gone by".

- o Tell the suspect that, when they think the thirty seconds have gone by, to bring their head forward, open their eyes, and say "stop".
- o Ask the suspect if they understand.
- o Look at your watch and pick a convenient time to start the test.
- o Tell the suspect to tilt their head back and close their eyes.
- o Tell the suspect to begin and start timing.
- o Keep track of the time while the suspect performs the test.
- o When the suspect opens their eyes, ask them "how much time was that?" and document their response.
- o If ninety seconds elapse before the suspect opens their eyes, stop the test.

Look and listen for the following:

- o suspect unable to stand still or steady with the feet together
- o body tremors
- o eyelid tremors
- o muscle tone (either more rigid or more flaccid than normal)
- o any statements or unusual sounds made by the suspect when performing the test

E. Documenting the Test

Record the estimated number of inches of sway exhibited by the suspect. You should estimate the approximate extent of swaying for both front to back and side to side.

To indicate impairment of the suspects' "internal clock", record the actual number of seconds the suspect stood with the eyes closed.

Document any of the above, or any other noteworthy observations and explain as necessary in the narrative section of your report.

OBSERVATIONS

SUSPECT'S BREATH

- Odor of alcohol
- Chemical odor
- Cannabis odor

OBSERVATION OF FACE

- Normal
- Flushed
- Pale
- Other (describe)

GENERAL APPEARANCE

- Clean
- Orderly
- Disarranged
- Bloody
- Vomit
- Urine

EYES

- Normal
- Watery
- Bloodshot
- Pink/Red

ATTITUDE

- Anxious
- Restless
- Agitated
- Excited
- Combative
- Disinterested
- Uninhibited
- Disoriented
- Drowsy
- Confused
- Hallucinating
- Loss of Memory
- Cyclic mood swings
- Polite
- Antagonistic
- Stuporous
- Cooperative/indifferent
- Laughing
- Insulting
- Argumentative
- Fumbling

SPEECH

- Talkative
- Thick, slurred
- Incoherent
- Rapid
- Slow
- Non-communicative
- Repetitive

PHYSICAL ACTIONS

- Facial itching
- Dry mouth
- Nodding
- Droopy eyelids
- Low, raspy voice
- Body tremors
- Muscle tone - rigid
- Muscle tone - flaccid
- Muscle tone - normal
- Grinding of teeth

OTHER

- Nasal redness
- Runny nose
- Track marks
- Perspiring
- Warm to touch
- Intense headaches
- Residue of paint on person
- Debris
- Pills
- Vials
- Syringes
- Drug paraphernalia

SESSION III

**EYE EXAMINATIONS:
DETECTING SIGNS OF DRUG INFLUENCE**

SESSION III: EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE

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

- o Overview the major eye indicators of impairment

CONTENT SEGMENTS

- A. Detecting Signs of Drug Influence

LEARNING ACTIVITIES

- o Instructor-Led Presentation

A. Detecting Signs of Drug Influence

A suspect's eyes often disclose some very important, indicators of drug influence or medical impairment. Four eye examinations are especially helpful:

- o Tracking Ability
- o Pupil Size
- o Horizontal Gaze Nystagmus
- o Vertical Nystagmus

Tracking ability refers to the ability of the eyes to track together when the subject attempts to follow an object moving side-to-side. The test for tracking ability is conducted in the same fashion as the check for "lack of smooth pursuit" in the horizontal gaze nystagmus test. If the two eyes do not track together, i.e., if one moves smoothly but the other moves only slightly, or in a very jerky fashion, or not at all, the possibility of a medical condition or injury exists.

Pupil size is an important indicator of certain categories of drugs. Of course, the size of a person's pupils changes naturally, in response to changing light conditions. Usually, the diameter of the pupils constricts in bright light, and dilates in dark conditions.

If the two pupils are noticeably different in size, the suspect may have a glass eye, or be suffering from an injury or medical condition. This condition may be pre-existing, or a medical emergency requiring immediate medical treatment or may be an old injury and not a medical emergency.

Subjects under the influence of CNS stimulants or hallucinogens usually have dilated pupils. Cannabis usually causes a dilation of the pupils, but not necessarily in all cases. Most CNS depressants, Dissociative Anesthetics, and inhalants usually do not affect pupil size. Subjects under the influence of narcotic analgesics usually have constricted pupils. It is not necessary that a precise estimate of pupil size be obtained. It is enough to estimate whether the pupils are of equal size, and whether they look noticeably small, about normal, or noticeably large.

Horizontal Gaze Nystagmus usually occurs with subjects under the influence of three categories of drugs:

- o CNS depressants (including alcohol)
- o Dissociative Anesthetics
- o Inhalants

When PCP is involved, the onset of jerking usually occurs almost immediately, i.e., very soon after the eyes start to move to the side.

Vertical Nystagmus is another easy-to-administer test. Position the stimulus horizontally, approximately 12 to 15 inches in front of the subject's nose. Instruct the subject to hold the head steady and follow the object with the eyes only. Then, slowly and steadily move the stimulus upward until the eyes are elevated as far as possible and hold in that position for approximately four (4) seconds. If the eyes can be observed to jerk noticeably, vertical nystagmus is present.

Vertical nystagmus usually occurs with Dissociative Anesthetics, and may occur with relatively high doses, for that individual, of CNS depressants or inhalants.

SESSION IV
METHODS OF INGESTION/INJECTION

SESSION IV: METHODS OF INGESTION AND INJECTION

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

- o Describe the common methods of ingesting drugs.

CONTENT SEGMENTS

LEARNING ACTIVITIES

- | | |
|---------------------------------------|-------------------------------|
| A. Methods of Ingestion and Injection | o Instructor-Led Presentation |
|---------------------------------------|-------------------------------|

A. Methods Of Ingestion/Injection

If the means of ingestion can be determined, it can be a significant clue as to the involved drug category.

Different drugs are taken into the body in various ways. Drugs may be ingested orally. Some Depressants, Stimulants, Dissociative Anesthetics, and Narcotic Analgesics are commonly taken in a pill or capsule. Some other drugs such as Hallucinogens can be eaten in their naturally occurring form.

Ingestion through the nasal area or insufflation is a very common method of ingesting some Stimulants and Narcotic Analgesics. This method of ingestion may cause marked reddening in the nasal area, or even traces of the ingested substance in the nose.

Another common method of ingestion is for the user to inhale the drug or fumes from the drug. Gasoline, paint and anesthetic gases are usually ingested by inhaling. When we think of drug use by hypodermic needle, we usually think primarily of Narcotics, and especially Heroin. Many people inject other drugs. Cocaine and Methamphetamine, for example, are often "shot", and hypodermic injection of certain Depressants, Phencyclidine and LSD, is not unheard of.

You should be extremely careful when dealing with suspected drug users. **PROTECTIVE RUBBER GLOVES SHOULD ALWAYS** be worn to reduce the possibility of contracting contagious diseases such as **AIDS** and **HEPATITIS**. These suspects may also be carrying used, non-sterile syringes or needles on their person.

SESSION V
MUSCLE TONE

SESSION V: MUSCLE TONE

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

- o Describe how various drug categories affect muscle tone.

CONTENT SEGMENTS

- A. Muscle Tone

LEARNING ACTIVITIES

- o Instructor-Led Presentations

A. MUSCLE TONE

The effect of some drugs on the user may be observed in their muscle tone. Muscle tone may be normal, rigid, or flaccid.

Dissociative Anesthetics, Stimulants and Hallucinogens, primarily cause a rigid, tense or stiff feeling in the muscles. Some drugs, i.e., Depressants and Narcotics, often will cause the muscles to be very flaccid or loose and relaxed. Subjects with rigid muscle tone may appear very stiff and exhibit very jerky movements. Flaccid muscle tone will usually be evidenced by loose, relaxed movements. Evidence of muscle tone may become apparent when the suspect attempts to perform the divided attention tests.

SESSION VI
DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

SESSION VI: DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

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

- o Identify the indicators of impairment associated with each category.
- o Describe the expected results of roadside observations/indicators of impairment.
- o Describe the general indicators that may be present for each drug category.

CONTENT SEGMENTS

- A. CNS Depressants
- B. CNS Stimulants
- C. Hallucinogens
- D. Dissociative Anesthetics
- E. Narcotic Analgesics
- F. Inhalants
- G. Cannabis
- H. Drug Combinations
- I. Medically Impaired Person

LEARNING ACTIVITIES

- o Instructor-Led Presentations

A. CNS DEPRESSANTS

Action

CNS depressants slow down the operations of the brain. They depress the heartbeat, blood pressure, and many other processes controlled by the brain.

Examples

- o Alcohol
- o Barbiturates
- o Anti-Anxiety Tranquilizers (e.g., Valium, Librium, Xanax, Prozac, and Thorazine)
- o GHB (Gama Hydroxy Butarate)
- o Rohypnol
- o Many Others

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical

- o Divided attention impairment
- o Poor coordination and balance
- o Slowed internal clock

Eye Indicators

- o Horizontal Gaze Nystagmus usually present.
- o Vertical Nystagmus will be present (with high doses for that individual).
- o Pupil size usually normal
- o Eye lids may be droopy and eyes watery.

Methods of Ingestion

- o Orally
- o Injected

General Indicators

- o "Drunken" behavior
- o Sluggish
- o Drowsy
- o Flaccid muscles
- o Thick, slurred speech

Other Conditions That May Cause Similar Symptoms

- o Extreme fatigue
- o Head injury
- o Hypotension (lowering of the blood pressure)
- o Severe depression
- o Inner ear disorders
- o Diabetic reaction

B. CNS STIMULANTS

Action

CNS stimulants accelerate the heart-rate and elevate the blood pressure, and "speed up" or over-stimulate many other processes of the body. Subjects under the influence of CNS stimulants tend to be hyperactive, nervous, talkative, and unable to sit still. They are usually unable to concentrate, or think clearly for any length of time.

Examples

- o Cocaine
- o "Crack"
- o Amphetamine
- o Methamphetamine

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Divided attention impairment
- o Starts test too soon
- o Accelerated internal clock
- o Completes test too quickly
- o Rapid and jerky movements

Eye Indicators

- o Nystagmus will usually not be present
- o Pupils usually will be dilated

Methods of Ingestion

- o Smoked
- o Snorted
- o Injected
- o Orally

General Indicators

- o Restlessness
- o Talkative
- o Excitation
- o Euphoria
- o Exaggerated reflexes
- o Grinding Teeth
- o Redness to nasal area
- o Runny nose
- o Body Tremors
- o Loss of appetite

Other Conditions That May Cause Similar Symptoms

- o Hyperactivity
- o Nervousness
- o Stress
- o Fear
- o Hypertension

C. HALLUCINOGENS

Action

Hallucinogens may cause hallucinations, i.e., they cause the user to perceive things differently than they actually are.

Examples

- o LSD
- o Peyote
- o Psilocybin
- o MDMA (Ecstasy)

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Uncoordinated
- o Severe divided attention impairment
- o Poor perception of time and distance
- o Poor balance
- o Distorted internal clock

Eye Indicators

- o Vertical or Horizontal Nystagmus usually not present
- o Pupils will be dilated

Methods of Ingestion

- o Orally
- o Smoked
- o Transdermal absorption (absorbed through the skin)
- o Injected
- o Snorted

General Indicators

- o Hallucinations
- o Dazed appearance
- o Body tremors
- o Perspiring
- o Piloerection (LSD)
- o Disorientation
- o Paranoia
- o Difficulty in speech
- o Nausea

Other Conditions That May Cause Similar Symptoms

- o Mental illness
- o High fever

D. DISSOCIATIVE ANESTHETICS

Action

Dissociative Anesthetics may produce impairments and other observable effects on the human mind and body much like the effects produced by depressants, stimulants and hallucinogens. Dissociative Anesthetics also induces a state of sedation, immobility, amnesia and marked analgesia.

Examples

- o Phencyclidine
- o Dextromethorphan (DXM)
- o Ketalar (analog of PCP)
- o Ketaset (analog of PCP)
- o Ketamine (analog of PCP)

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Divided attention impairment
- o May take abnormally high and slow steps as though they were attempting to step over obstacles
- o Slowed internal clock

Eye Indicators

- o Horizontal Gaze Nystagmus will be present, generally with a very early angle of onset.
- o Vertical Nystagmus generally will be present.
- o Pupil size is usually normal.
- o Suspect may have a blank stare.

Methods of Ingestion

- o Smoked
- o Inhaled or snorted
- o Orally (in capsule or tablet form)
- o Injected
- o Transdermal absorption (directly absorbed through the skin)

General Indicators

- o Slow, slurred speech
- o Disorientation
- o Loss of memory
- o Agitation, Excitement
- o Blank stare
- o Cyclic behavior
- o Rigid muscle tone
- o Warm to touch
- o Perspiring
- o Chemical odor (PCP)

Other Conditions That May Cause Similar Symptoms

- o Mental disorder

E. NARCOTIC ANALGESICS

Action

Narcotic analgesics relieves pain, induces euphoria, and changes mood.

Examples

- o Opium
- o Codeine
- o Heroin
- o Demerol
- o Darvon
- o Morphine
- o Dilaudid
- o Methadone
- o Oxycontin

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Divided attention impairment
- o Poor coordination and balance
- o Slowed internal clock

Eye Indicators

- o Horizontal Gaze Nystagmus will not be present
- o Vertical Nystagmus will not be present
- o Pupil size will be constricted
- o Eyelids will be droopy

Methods of Ingestion

- o Injected
- o Smoked
- o Snorted
- o Orally
- o Suppositories

General Indicators

- o Slowed reflexes
- o Slow, low and raspy speech
- o Muscle tone - flaccid

F. INHALANTS

Action

Inhalants include a wide variety of breathable chemicals that produce mind-altering results.

Examples

- o Toluene
- o Plastic cement
- o Paint
- o Gasoline
- o Thinners
- o Hair sprays
- o Deodorants
- o Anesthetic gases

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Divided attention impairment
- o Poor coordination and balance

Eye Indicators

- o Horizontal Gaze Nystagmus will be present
- o Vertical Nystagmus may be present, especially if a high dose, for that individual, of inhalant has been taken
- o Pupils normal or dilated depending on substance used

Methods of Ingestion

- o Inhaling
- o Some are ingested directly from the source

General Indicators

- o Dizziness and numbness
- o Floating sensation
- o Distorted perceptions of time and distance
- o Intense headaches
- o Nausea

G. CANNABIS

Action

Cannabis appears to interfere with a person's ability or willingness to pay attention. People under the influence of Cannabis usually do not divide their attention very well. When driving, they may attend to certain parts of the driving tasks but ignore others. For example, they may continue to steer the car but ignore stop signs, traffic lights, etc.

Examples

- o Marijuana
- o Hashish
- o Hashish oil
- o Marinol

Expected Results of Roadside Observations/Indicators of Impairment

Psychophysical Indicators

- o Divided attention impaired
- o Poor coordination and balance
- o Slowed internal clock

Eye Indicators

- o Horizontal Gaze Nystagmus will not be present
- o Vertical Nystagmus will not be present
- o Pupils will be dilated or normal

Methods of Ingestion

- o Smoking
- o Orally (hash oil and hashish)

General Indicators

- o Diminished inhibitions
- o Impair perception of time and distance
- o Eyelid and body tremors
- o Impaired attention
- o Redness of eyes
- o Residue in mouth

H. DRUG COMBINATIONS (Polydrug) Use

Experience across the country suggests that polydrug use, the simultaneous consumption of two or more categories of drugs is very common among drug users.

The Los Angeles Field Validation Study found that 72% of the suspects were found to have two or more drugs in their system.

New York City found that during Drug Certification Training 67% of the suspects tested were polydrug users.

Alcohol routinely shows up in combination with virtually all drug categories.

Suspects are often encountered who have consumed alcohol with two or more drugs.

Cannabis is a popular mixer and frequently shows up in combination with cocaine, PCP with other drugs.

Common Combinations

- o Cocaine and Cannabis
- o Cocaine and Heroin
- o PCP and Cannabis

Possible Effects

The nature and use of drug combinations (polydrug) may result in a wide range of effects.

DEALING WITH SUSPECTED DRUG INFLUENCE OR MEDICAL IMPAIRMENT

Students should become familiar with their agency's policies and procedures for handling drug or medically impaired subjects.

INDICATORS CONSISTENT WITH DRUG CATEGORIES							
	DEPRESSANT	STIMULANTS	HALLUCINOGEN	DISSOCIATIVE ANESTHETICS	NARCOTIC	INHALANT	CANNABIS
HGN	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT	NONE
VERTICAL NYSTAGMUS	PRESENT (HIGH DOSE)*	NONE	NONE	PRESENT	NONE	PRESENT (HIGH DOSE)*	NONE
PUPIL SIZE	NORMAL(1)	DILATED	DILATED	NORMAL	CONSTRICTED	NORMAL(2)	DILATED(3)

* high dose for that particular individual

FOOTNOTE:

These indicators are those most consistent with the category, keep in mind that there may be variations due to individual reaction, dose taken and drug interactions.

1. SOMA, Quaaludes usually dilate pupils.
2. Normal but may be dilated.
3. Pupil size possibly normal.

MAJOR INDICATORS	CNS DEPRESSANTS	CNS STIMULANTS	HALLUCINOGENS	DISSOCIATIVE ANESTHETICS	NARCOTIC ANALGESICS	INHALANTS	CANNABIS
GENERAL INDICATORS	Uncoordinated Disoriented Sluggish Thick, slurred speech Drunk-like behavior Gait ataxia Drowsiness Droopy eyes Fumbling *NOTE: With Methaqualone, pulse will be elevated and body tremors will be evident. Alcohol and Quaaludes elevate pulse. Soma and Quaaludes dilate pupils.	Restlessness Body tremors Excited Euphoric Talkative Exaggerated reflexes Anxiety Grinding teeth (bruxism) Redness to nasal area Runny nose Loss of appetite Insomnia Increased alertness Dry mouth Irritability	Dazed appearance Body tremors Synesthesia Hallucinations Paranoia Uncoordinated Nausea Disoriented Difficulty in speech Perspiring Poor perception of time & distance Memory loss Disorientation Flashbacks NOTE: With LSD, piloerection may be observed (goose bumps, hair standing on end)	Perspiring Warm to the touch Blank stare Very early angle of HGN onset Difficulty in speech Incomplete verbal responses Repetitive speech Increased pain threshold Cyclic behavior Confused agitated Hallucinations Possibly violent & combative Chemical odor "Moon walking"	Droopy eyelids ("ptosis") "On the nod" Drowsiness Depressed reflexes Low, raspy, slow speech Dry mouth Facial itching Euphoria Fresh puncture marks Nausea Track marks NOTE: Tolerant users exhibit relatively little psychomotor impairment.	Residue of substance around nose & mouth Odor of substance Possible nausea Slurred speech Disorientation Confusion Bloodshot, watery eyes Lack of muscle control Flushed face Non-communicative Intense headaches **NOTE: Anesthetic gases cause below normal blood pressure; volatile solvents and aerosols cause above normal blood pressure.	Marked reddening of conjunctiva Odor of marijuana Marijuana debris in mouth Body tremors Eyelid tremors Relaxed inhibitions Increased appetite Impaired perception of time & distance Disorientation Possible paranoia

SCENARIO I

While checking an interstate rest area, you notice a vehicle parked, engine running, with the driver apparently sleeping. After awakening the driver, who claims she was not sleeping, you notice that her actions are very slow and lethargic. There is no odor of alcoholic beverage on this person's breath and she states she has not been drinking. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. You also observe that her pupils are extremely small and the eyelids are droopy. As the driver is performing the walk and turn and one leg stand tests, her movements are slow. Administration of the Romberg test disclosed that the subject has a slow internal clock.

SCENARIO II

On a Saturday evening following a concert, you stop a vehicle for weaving down the street. During the initial conversation with the subject you notice that he is talking very rapidly, has extremely large pupils and is paranoid. The subject states that he was trying to avoid the large snails that were on the road. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are fast, then slow, then fast again; and was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a fast internal clock and goosebumps. After the Romberg test the subject stated that he was confused by the loud noise coming from the Police Officer's raincoat.

SCENARIO III

It is August, you arrive on the scene of a serious traffic crash. You notice that the driver is wearing a long sleeve shirt and different smelling smoke escapes from the vehicle. He is not able to stay awake but is able to answer your questions. The sleeve of his shirt slides up and you notice red marks on his arms. He has no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and deliberate. Administration of the Romberg test disclosed that the subject has a slow internal clock. His eyes are reddish and pupils appear to normal.

SCENARIO IV

On a Saturday evening following a concert, you stop a vehicle for speeding (70 in a 35). During the initial conversation with the subject you notice that she is talking very rapidly, has extremely large pupils and is anxious. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, her movements are fast. Administration of the Romberg test discloses that the subject has a fast internal clock and muscle tremors.

SCENARIO V

You receive a call to back-up a fellow officer who has stopped a vehicle and is now wrestling with the operator. Upon arrival, you observe that the subject is naked (the temperature is thirty degrees). He appears to be somewhat cooperative but non-communicative. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus with immediate onset and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and rigid. He was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a slow internal clock. His skin is warm to the touch.

SCENARIO VI

You have responded to a one car property damage crash. In your initial conversation with the operator you observe him to be drowsy. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are slow and his muscle tone appears flaccid. Administration of the Romberg test discloses that the subject has a slow internal clock. The subject's pupils appeared normal in size.

SCENARIO VII

You receive a call to assist a local officer and he explains that he stopped the vehicle for obvious driving impairment. The driver displayed numerous clues and indicators of impairment during the SFSTs. However, he did not demonstrate any clues in Horizontal Gaze Nystagmus or Vertical Nystagmus. Larger than normal pupils and noticeable fluttering eyelids during the Romberg were detected. His internal clock was slowed to 60 seconds. The whites of his eyes appear reddish. He seems totally unconcerned with the thought of possibly being arrested.

SCENARIO VIII

You stop a vehicle for running a red light. As you observe the driver, he is slow to respond, perspiring, and is easily agitated. As the subject is performing the walk and turn and one leg stand, you observe that the subject is very rigid and is having a difficult time dividing attention. He has Horizontal Gaze Nystagmus and Vertical Nystagmus. His eyes are reddish and pupils are larger than normal. Administration of the Romberg test disclosed that the subject has a distorted internal clock.

SESSION VII
PROGRAM CONCLUSION

SESSION VII WRITTEN EXAMINATION AND PROGRAM CONCLUSION

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

- o Complete a written examination with a passing grade.
- o Provide comments and suggestions to improve the course.

CONTENT SEGMENTS

- A. Post Test and Critique
- B. Certificates and Dismissal

LEARNING ACTIVITIES

- o Written Participant Exam

TOPICS FOR STUDY

Test your knowledge of the subject matter covered in this module by trying to answer the following questions. Answers are given on the next page.

1. What is a "drug" as the term is used in this course?
2. What are the seven major categories of drugs?
3. What kind (category) of drug is alcohol? What about cocaine? What about heroin?
4. Name the four eye examinations that provide important indicators of drug influence or medical impairment.
5. What category of drug is PCP? What about marijuana? What about Valium?
6. What category (or categories) of drug usually causes (or cause) the pupils to constrict?
7. What category (or categories) of drug causes (or cause) the pupils to dilate?
8. What categories of drugs usually will not induce horizontal gaze nystagmus?
9. What kind (category) of drug is methamphetamine? What about LSD? What about Peyote?
10. What does the term "polydrug use" mean?

Answers To Review Questions

1. For purposes of this training, "a drug is any substance, which when taken into the human body, can impair the ability of the person to operate a vehicle safely."
2. The seven categories are:
 - Central Nervous System Depressants - Hallucinogens
 - Central Nervous System Stimulants - Dissociative Anesthetics
 - Narcotic Analgesics - Inhalants
 - Cannabis
3. Alcohol is a CNS depressant. Cocaine is a CNS stimulant. Heroin is a narcotic analgesic.
4. The four key eye examinations include:
 - Tracking Ability - Pupil Size
 - Horizontal Gaze Nystagmus - Vertical Nystagmus
5. PCP is a Dissociative Anesthetic; that category consists of PCP and its various analogs. Marijuana is Cannabis. Valium is a CNS depressant.
6. Narcotic Analgesics usually cause the pupils to constrict.
7. CNS stimulants and Hallucinogens usually cause the pupils to dilate. Cannabis causes dilation of the pupils but may be normal.
8. CNS stimulants, Hallucinogens, Narcotic Analgesics and Cannabis do not induce horizontal gaze nystagmus.
9. Methamphetamine is a CNS stimulant. LSD and peyote are Hallucinogens.
10. "Polydrug use" is the practice of using two or more categories of drugs at the same time, i.e., combining drugs.