Recognizing Persons Under the Influence

“People on Drugs”

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Drug Recognition Expert

Objectives

- Define the term “drug”
- Define the term “impairment”
- Name the seven categories of drugs
- Identify common methods of drug administration
- Describe the symptoms, observable signs, and other effects for each drug category as it applies to EMS
- Explain the “polydrug” effect as it applies to EMS
- Drugs vs. Medical Conditions
What is a drug?

- Any substance that, when taken into the human body, alters the effects of a body system
  - Thousands of variations
  - Widely different interpretations
  - Many non-traditional substances used illicitly which may or may not be considered a drug

Impairment

When the effects of a drug, or a combination of drugs, visibly alters normal functioning of the body to perform a function or task.

Law Enforcement Definition of Drug

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

Workplace Definition of Drug

Any substance, which when taken into the human body can impair the ability of the person to perform their job both safely and efficiently
### EMS Definition of Drug
- You tell me

### Impairing Drug Categories
- Broken down into seven categories:
  - CNS Depressants
  - CNS Stimulants
  - Hallucinogens
  - Dissociative Anesthetics
  - Narcotic Analgesics
  - Inhalants
  - Marijuana

### CNS Depressants
- Barbiturates
- Non-Barbiturates
- Anti-Anxiety Tranquilizers
- Anti-Depressants
- Anti-Psychotic Tranquilizers

### CNS Depressants
- Sedate the function of the CNS
  - Tranquilizers
- Taken orally or injected
- Onset and duration are varied, depending on the drug
- Many are abused prescription medications
### Common Depressants

- **Barbiturates**
  - Seconal
  - Nembutal
  - Tuinal
  - Amytal

- **Anti-anxiety**
  - Valium
  - Librium
  - Xanax
  - Serax

- **Non-barbiturates**
  - Noctec or Felsule
  - Doriden
  - Noludar
  - Quaalude
  - Placidyl
  - Equanil or Miltown
  - Soma

### Alcohol is a CNS Depressant

- Most common used and abused
- We run into this at all different stages

### Alcohol Effects of Intoxication

- Smell
- Slurred Speech
- Uncoordinated
- Unsteady Gait
- Glassy gaze
- Droopy eyes
- Watery, reddened eyes
- Depressed internal clock
- Inability to concentrate
- Emotion amplification

### CNS Depressant Effects

- Reduced inhibitions
- Divided attention impairment
- Slowed reflexes
- Impaired judgment and concentration
- Impaired vision
- Lack of coordination
- Slurred mumbled or incoherent speech
- Emotional instability
Central Nervous System Stimulants

- Cocaine
- Methamphetamine
  - Ice, crank
- Ephedrine
- Caffeine

- Enhance the body’s “fight or flight” chemical response
- Speed metabolism, alertness
- Heightens sensory response
- Suppresses appetite
- Creates a euphoric effect
- Decreases pain response

Effects of Cocaine

- Onset is almost immediate
- Effects can last hours
- Inability to concentrate
- Decreased perception of time, distance
- Restless, overtalkative

Influence of CNS Stimulants

- Anxiety
- Body tremors
- Bruxism
- Dry mouth
- Euphoria
- Exaggerated reflexes
- Eyelid and Leg tremors
- Irritability
- Redness to nasal area
- Restlessness
- Running nose
- Talkative
Hallucinogens
- Causes a distortion of reality
  - Illusions
  - Delusions
  - Synesthesia
- Many naturally occurring agents
  - Peyote
  - Psilocybin
- A chemical, LSD
- A chemical, MDMA

Indicators of Hallucinogen Impairment
- Dazed appearance
- Body tremors
- Perspiring
- Paranoia
- Disoriented
- Nausea
- Difficulty with speech
- Piloerection
- Statements suggesting hallucinations

Dissociative Anesthetics
- Drugs that inhibit pain by cutting off or dissociating the brain’s perception of pain
- Induce a state of sedation, immobility, amnesia and analgesia

PCP
- Phencyclidine
- Patented in the 50’s as an IV anesthetic and in treatment of psychological disorders
- Discontinued in 1967 due to undesirable side effects
Dextromethorphan

- A drug used in OTC cough medicines that inhibits the cough reflex in the brain
- In high doses (the whole bottle) it produces effects similar to PCP

Indicators of Dissociative Anesthetic Impairment

- Blank stare
- Loss of memory
- Perspiring heavily
- Warm to touch
- Incomplete, slurred verbal responses
- Cyclic behavior
- Agitated
- Rigid muscle tone
- Disoriented
- Non-responsive
- Chemical odor

Narcotic Analgesics

- Refers to any natural or synthetic derivative of the opium poppy
- Painkillers (analgesics)
- Rx drugs widely used
  - Morphine, Codeine, Demerol, etc.
- Rx drugs widely abused
- Heroin the most common illicit narcotic

Indicators of Narcotic Analgesic Impairment

- “Track marks”
- “On the nod”
- Slowed reflexes
- Low, slow, raspy speech
- Facial itching
- Dry mouth
- Euphoria
- Pupils visibly and obviously constricted
- Flaccid or normal muscle tone
**Inhalants**

- Typically, powerful solvents that create a short duration dissociative effect
  - Buzz, head rush
- Anesthetic gasses (NO$_2$)
  - "Whipits"
- Glues, spray paint

**Indicators of Inhalant Impairment**

- Odor of the inhaled substance
- Dizziness, numbness
- Possible traces of the substance around the face and nose
- Bloodshot, watery eyes
- Distorted perception of time and distance
- Confused, disoriented appearance

**More Indicators of Inhalant Impairment**

- Light headedness
- Flushed face, possible sweating
- Intense headaches
- Slow, thick, slurred speech
- Nausea
- Non communicative
- Floating sensation

**Cannabis**

- Marijuana
- Hashish
- Hashish Oil
Marijuana

- Active Ingredient: THC
  - Tetrahydrocannabinol
- How Administered:
  - Smoked
  - Can be ingested
- Onset
  - If smoked, immediate onset of effects which last 1-3 hours... If ingested, onset of effects within 1 hour and lasts up to 12 to 24 hours

Marijuana Effects

- Body tremors
- Disoriented
- Debris in mouth (possible)
- Eyelid tremors
- Impaired perception of time and distance
- Increased appetite
- Marked reddening of conjunctiva
- Odor of marijuana
- Possible paranoia
- Relaxed inhibitions

The Problem

- Estimates vary widely, however we do know that:
  - Marijuana is the most used illegal drug with about 14.6 million users
  - In 2004, 19.1 million Americans aged 12 years or older were current illicit drug users
  - A 2009, Center for Disease Control showed More than one-third (36.8 percent) had ever smoked marijuana, including 20.8 percent in the past month.
  - Approximately 6 million people were users of psychotherapeutic drugs taken non-medically

The Studies

- Over 90% of alcohol abusers and 74% of drug users are employed
- An average of 15 to 17% of employees in every US company are substance abusers
  - US Department of Labor statistics
More Studies

- 2009 National Youth Risk Behavior Survey
  - One high school student in five has taken a prescription drug without a doctor’s order
- Unintentional overdose deaths involving prescription opioids increased 114 percent from 2001 (3,994) to 2005 (8,541)

Recognizing Impairment

- A multi-sensory perception task
  - The “look test”
  - Smells
  - Alertness levels, attentiveness
  - Changes in behavior
  - Changes in patterns
    - Absenteeism, tardiness
    - Chronic illnesses, issues

Divided Attention

- The ability for a person to perform two or more tasks simultaneously
- The ability to follow a series of directions
- The ability to question direction prior to performance
- Almost all substance impairment has an effect on divided attention

How Cops do it…..
How Cops do it…

- For decades, officers had various informal tests in their battery:
  - Alphabet recital
  - Finger to nose
  - Walk and Turn
  - Finger Count
  - Time estimation (Romberg Test)
  - Eye Tests (Horizontal Gaze Nystagmus)
  - Their observations & experience

Roadside Standardization

- NHTSA standardized the DWI Field Sobriety testing.
- Tasks were given scientific justification, and unified probability
- Three tasks, one physiologic and two divided attention, are standard nationwide

Our Divided Attention Tasks

- The “walk and turn”
  - 9 heel-to-toe steps out and back in a straight line
  - A specifically prescribed turn
  - Arms not to be used for balancing

Our Divided Attention Tasks

- The “one leg stand”
  - Keep a foot elevated for 30 seconds
  - 6” off the ground
  - Can’t put it down
  - Don’t use arms to balance
The Physiologic

- Horizontal gaze nystagmus
  - The involuntary jerking of the eyes due to sedation
  - Check for smooth tracking
  - Angle of onset
  - Nystagmus at maximum deviation

Divided Attention Tests

<table>
<thead>
<tr>
<th>Walk And Turn Test</th>
<th>Cannot keep balance</th>
<th>Starts too soon</th>
<th>1st Nine</th>
<th>2nd Nine</th>
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<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

Balance Eyes Closed

Internal Clock: Estimated as 30 sec.

One Leg Stand

Sways while balancing.
Uses arms to balance.
Hopping.
Puts foot down.

HGN

Walk and Turn

www.youtube.com/watch?v=9fQ2ZaIay2U&feature=related
One Leg Stand

The eyes never lie...

- Eye and pupillary response is involuntary, and a great indicator
  - HGN for alcohol, Dissociative Anesthetics, and many inhalants
  - Marked Dilation for stimulants, cannabis, and hallucinogens
  - Pinpoint constriction for narcotics

Other Tests We Use

- Romberg Test
- Finger to Nose
- Pulse Rate
- Blood Pressure
- Body Temperature
- Muscle Tone

Putting It All Together

<table>
<thead>
<tr>
<th></th>
<th>Depressant</th>
<th>Stimulant</th>
<th>Hallucinogen</th>
<th>Dissociative Anesthetic</th>
<th>Narcotic Analgesic</th>
<th>Inhalant</th>
<th>Cannabis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Nyctagia</td>
<td>Present</td>
<td>None</td>
<td>None</td>
<td>Present</td>
<td>None</td>
<td>Present</td>
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<tr>
<td>Vertical Nyctagia</td>
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<td>None</td>
<td>Present</td>
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<td>Present</td>
<td>None</td>
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<tr>
<td>Lack of Convergence</td>
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<td>Present</td>
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<td>Present</td>
<td>Present</td>
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<tr>
<td>Pupil Size</td>
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<td>Dilated</td>
<td>Normal</td>
<td>Constricted</td>
<td>Normal</td>
<td>Dilated</td>
<td>Normal</td>
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<td>Pupil Reaction</td>
<td>Slow</td>
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<td>Lided or None</td>
<td>Slow</td>
<td>Normal</td>
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<tr>
<td>Pulse Rate</td>
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<td>Down</td>
<td>Up</td>
<td>Up</td>
<td></td>
</tr>
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<td>Blood Pressure</td>
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<td>Up</td>
<td>Down</td>
<td>Up/Down</td>
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<td>Down</td>
<td>Any</td>
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<td></td>
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</table>
Driving While Intoxicated

- Driving a car is the most common divided attention task
- .08% BAC is the recognized level of impairment for driving
- There is no lab results with drugs that show impairment

Observations

SUSPECT'S BREATH
- Odor of alcohol
- Chemical odor
- Cannabis odor

OBSERVATION OF FACE
- Normal
- Disoriented
- Other (describe)

GENERAL APPEARANCE
- Clean
- Disarranged
- Vomiting

EYES
- Normal
- Watery

SPEECH
- Thick slurred

PHYSICAL ACTIONS
- Facial itching
- Dry mouth

ATTITUDE
- Anxious
- Restless

OTHER
- Nasal redness

EMS CASE REVIEW
WHAT MIGHT TRICK US
- Hypoglycemia
- Hypoxia
- Stroke
- Traumatic Head Injuries
- Hypo/Hyperthermia
- Seizure Disorders

Discussion and Questions
My Contact Information

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