MCSHC’ 12

BRAIN on DRUGs

101

GATEWAY

TRENDS

Marketing

Recognition

2012

LT. Ed Moses, Retired

Objectives

- List the impairment associated with drug abuse {#60,61 decp.org}
- Name the three major categories of drugs and the four additional DRE categories {#9 decp.org}
- Identify protective factors for adolescents {#67-73 PRIDE Srvy}

Purpose

- **Enhance your ability to recognize the harm and reasons to be intolerant of drug abuse (Alcohol, Tobacco, and Other Drugs ATOD). Understand the *increased risk of teen* ATOD abuse to better educate the general public .**

Youth comes to us
wanting to know
what we are going to do about a society
that hurts so many of us.

Franklin D. Roosevelt, 1936

Victims of Drugs

Drug Endangered Children (DEC)

Lab in bedroom with three children

Three containers of liquid with meth in solution.

Chicken wrapped in foil tested positive for meth.

Eight-year-old made to help Dad in lab

Complained of headaches and was taken to hospital by law enforcement.

3 Basic Drug Categories

- Central Nervous System (CNS) **Depressants**
- Central Nervous System (CNS) **Stimulants**
- **Hallucinogens**

DISSOCIATIVE - PCP, DXM, K

Narcotic Analgesics

Inhalants

Cannabis

THE RULE

- NEVER say NEVER
- NEVER say ALWAYS

- The cues and vital signs that follow are GENERALLY present or absent.

- The human body is much too complex to say "always" or "never".

Normal values used by DRE

- Pupil Size will generally range from **2.5 mm to 5.0** mm, [av. 4.0]. Yet pupils as large as 7.0 mm are not uncommon. [rmlt]

- Pulse Rate: will generally range from **60 bpm to 90** bpm. We take it for 30 seconds and multiply by two. Pulse taken 3 times.

- Blood Pressure and Body Temperature norms:
  - Systolic: **120 to 140**
  - Diastolic: **70 to 90**

  - **98.6** degrees F ranging from **one degree plus or minus.**

Horizontal Gaze Nystagmus [HGN]

Drugs That Will Enhance Nystagmus

Depressants CNS

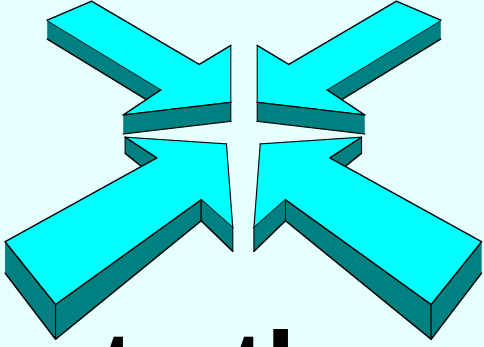
Inhalants

Dissociative

If NO HGN can NOT have VGN

These are referred to as "**DID**" drugs.

Lack of convergence



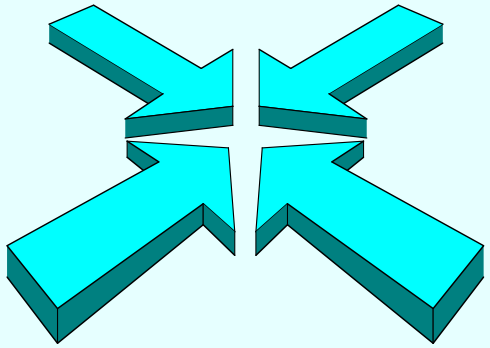
- Lack of convergence refers to the inability of the **eyes to cross** when focused on an object positioned within 2" of the bridge of their nose.
- About 25% of the population may experience difficulty crossing their eyes completely.

DIDC

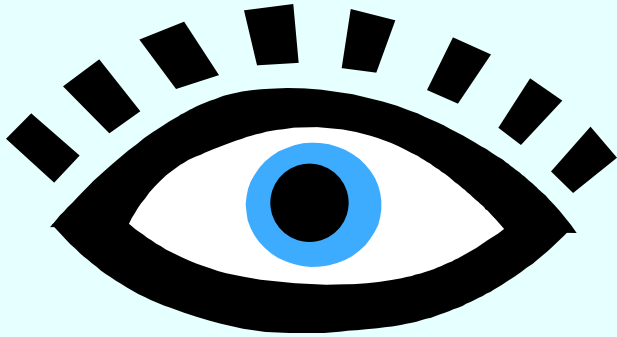
Lack of convergence

- **Drugs that influence LOC**

- **D**epressants
- **I**nhalants
- **D**issociative
- **C**annabis



MCSHC' 12 Drugs Causing Pupil Dilation



- **Stimulants CNS**
- **Hallucinogens**
- **Cannabis**

S C H ool Drugs

- Normal pupil size (in normal room light) will range from 2.5 mm to 5.0 mm.
- Not unusual 7.0 mm in some non-drugged persons.

Example of dilated pupils

Category That Causes Constriction of the Eyes

Narcotic Analgesic*

OR

Withdrawal of heavy meth abuser

*"Tweeker" Crashing

Example of constricted pupils

"ptosis"

NOTE: Both eyelids

- **Examples of droopy eyelids**

“Auto” PTOSIS

from the movie “Cars”

Romberg Balance
[Internal Clock]

1. Stand with feet together & Arms at side
. Tilt head back 45<, close eyes
. Say start & estimate 30 seconds
4. Say stop & open eyes, tilt head forward
5. Ask suspect "How much time was that?"
6. Watch for muscle rigidity & eye lid tremors
7. Measure sway

Signs of Ingestion

Oral

Nasal

Injection

Smoking

Inhaling

Muscle Tone

Normal

Rigid

Flaccid

Central Nervous System Depressants

- Alcohol

- Rohypnol
- Valium, Xanax, Soma*, any and all "benzodiazepines".
- GHB - Gamma-Hydroxy Butyrate

Indicators of CNS Depressants Influence

- **Drunken behavior and appearance**
- **Uncoordinated**
- **Drowsy**
- **Sluggish**
- **Disoriented**
- **Thick, slurred speech**
- **odor of alcoholic beverage or NOT**

EYE INDICATORS

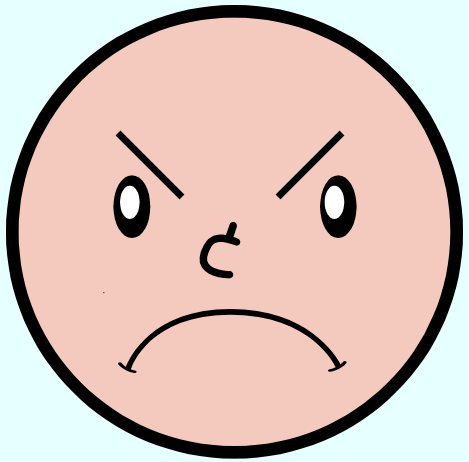
- **HGN**
- **VGN possibly** present. VGN may be present if a high dose (for the user) has been taken.
- Pupil size generally **normal** (but dilated by Methaqualone and Soma)

Central Nervous System Stimulants

- Cocaine (also in crack form)
- Amphetamines
- Meth-amphetamine

Indicators of CNS Stimulant Impairment

- Restlessness
- Anxiety
- Euphoria
- Talkativeness
- Excitation
- Bruxism-Teeth Grind
- Body tremors
- Exaggerated reflexes
- Loss of appetite
- Aggression!!!



If subject snorts cocaine:

- Runny nose
- Redness to nasal area


Fully marked MO State Patrol car
Meth high 18 wheeler
Air Bag Worked!!

Hallucinogens

- LSD
- Peyote or mushrooms
- MDMA (Ecstasy)

Hallucination

Hallucination is a sensory experience of something that does not exist outside the mind.

Indicators of Hallucinogen Impairment

- Dazed appearance
- Body tremors
- Perspiring
- Paranoia
- Disoriented
- Nausea
- Difficulty with speech
- Piloerection - goosebumps - hair on end
- Statements suggesting hallucinations

Synesthesia

Transposing of the Senses

- **Sounds** may be transposed into **sights**.
- ***Sights*** may be transposed into ***odors***

ECSTASY EFFECTS

- **BEHAVIORAL**

- INCREASED ENERGY
- EMPATHY TOWARD OTHERS
- INCREASED AFFECTION
- EMOTIONAL OPENNESS
- PROFOUND POSITIVE FEELINGS
- EUPHORIA
- DECREASED INHIBITIONS
- DECREASED ANXIETY
- EXTREME RELAXATION

- **ACUTE**

- TEETH CLENCHING
- NAUSEA
- HALLUCINATION
- CHILLS
- SWEATING
- TREMORS
- BLURRED VISION
- MUSCLE CRAMPING

Ecstasy (MDMA) dilation

DISSOCIATIVE

Phencyclidine (PCP) and Its Analogs

An analog is a "close chemical cousin".

An analog of PCP: Ketamine, a veterinary pain killer

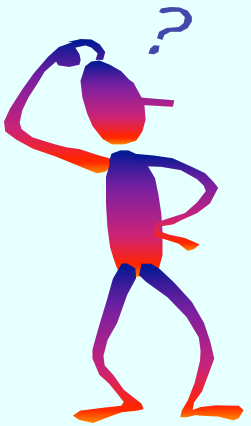
#1 THREAT OF VIOLENCE TO POLICE

MCSHC' 12

DISSOCIATIVE Indicators of PCP

- Perspiring heavily
- Warm to touch
- Rigid muscle tone
- Chemical odor
- Moon Walking
- Immediate Nystagmus

Flight or fight
Feels NO pain
UNPREDICTABLE



Blank stare
Disoriented
Loss of memory
Nonresponsive

Incomplete, slurred verbal responses

Cyclic behavior

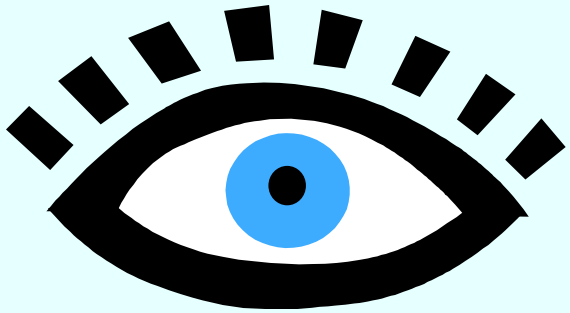
Slowed Internal Clock

Narcotic Analgesics

- Heroin
- Morphine
- Codeine
- Synthetic Opiates (e.g., Demerol, Methadone, Fentanyl, Percodan, Percocet, Oxycodone, etc)

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



AN ALERT DRUNK

INHALANTS

Any volatile hydrocarbon, volatile solvent or propellant. Toluene, nitrous oxide, hair spray, gasoline, butane, white out, fingernail polish remover, etc.

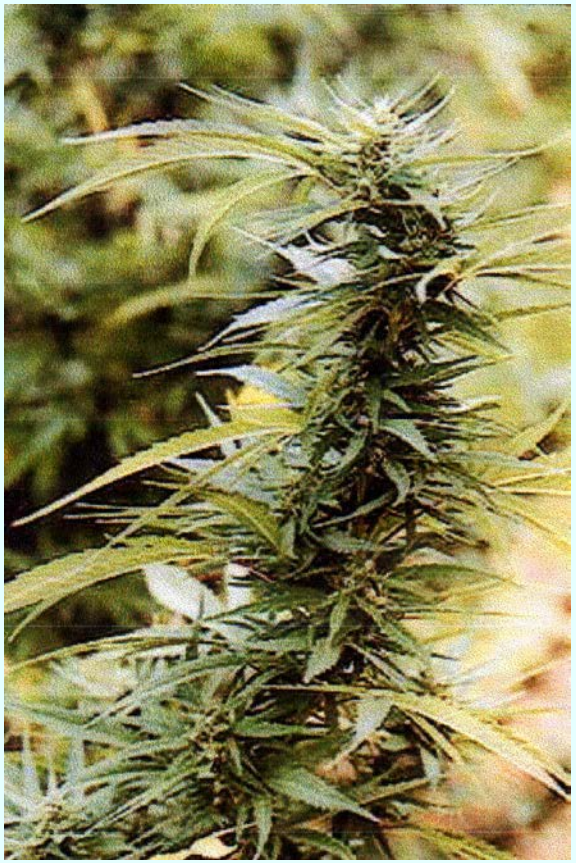
Anything that suffocates or evaporates quickly

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
- HGN will be **present**
- Vertical Nystagmus **may** be present (with high doses for that individual)
- Pupil size may be **normal or dilated**

CANNABIS

- Marijuana
- Hashish
- Hash Oil
- Budder – Other exotic forms of Mj



INDICATORS OF CANNABIS

General Indicators:

- Very **bloodshot** eyes, with pronounced veins in the eyeballs
- Body **Tremors**
- **Odor** of Marijuana
- **Disoriented**
- **Relaxed Inhibitions**
- Difficulty in **Dividing Attention**

Eye Indicators:

- **No** Nystagmus
- Pupil size usually will be **dilated - but may be normal**
- **Dilation Rebound**
- **Redding of the Conjunctiva** - Red Eye

Methamphetamine, Hydrocodone, Cannabis, K2

Trooper Clay Marlin, DRE

MO SHP

3/11/10

Male 32

Initial Observation

- **Very excited** bouncing around in the vehicle causing the vehicle to rock side to side
- **Flushed face, Droopy eyes, sweating** forehead
- **Eyes glassy and bloodshot**
- Excited with **exaggerated reflexes** and movement
- **Speech quick and stuttering**
- **Breath rancid, Mouth dry, white froth** in and around mouth

Eye Movement Max. Deviation

- **Eyes would jolt at max. deviation then orbit upwards towards the nose around the eye socket back to focusing on stimulus**
- **Left eye: after jolt eye would orbit counter-clock wise around the eye socket, focus back to stimulus**
- **Right eye: after jolt eye would orbit clock wise around the eye socket, focus back to stimulus**

MCSHC' 12 Pulse, Blood Pressure, Temp

- **Pulse: 120 - 118 - 118**

  [HS teen case 190 bpm – 90 min 140 bpm]

- **Blood Pressure: 158/122**

- **Temp: 97.2**

- **Tongue: Heat bumps, green film**

EYE EXAMINATION

- HGN, with 40 angle, and vertical
- LOC
- Slow reaction to light
- Dilation Rebound
- Room light 5.5 L - R
- Dark room 6.5 L - R
- Direct light 4.5 L - R

POLY-DRUG USE

Using **two or more drugs** at the same time.

EXAMPLES:

- **Alcohol** and Almost Anything Else (especially medications, tranquilizers, muscle relaxants, etc.)
- **PCP and Cannabis** [Increases Cannabinoids effects]
- **Heroin and Cocaine** [Boy Girl or Gut Balling]
- **combinations are innumerable**
- **T's and Blue's** > Talwin and Pyribenzamine
- "**Cheese**" > Tylenol, Benadryl, and 2-8% Heroin

GENERAL
TYPES OF POLYDRUG EFFECTS

N U L L

(**Neither** drug has an affect on the indicator.)

EXAMPLE

Stimulants do not cause nystagmus. Narcotic Analgesics do not cause nystagmus. Therefore, nystagmus will not be present.

GENERAL TYPES OF POLYDRUG EFFECTS

OVERLAPPING

(Each drug affects people in some **different way**) i.e. "**Fills in the blank**"

EXAMPLE

PCP causes nystagmus but doesn't affect pupil size; Narcotic Analgesics constrict pupils, but do not cause nystagmus. Nystagmus will be seen and pupils will probably be constricted.

GENERAL
TYPES OF POLYDRUG EFFECTS

ADDITIVE

(The two drugs independently produce some **similar effects**) Same **or MORE effect**

EXAMPLE

Stimulant and Hallucinogen will both dilate the pupils, resulting in dilated pupils.

GENERAL
TYPES OF POLYDRUG EFFECTS

ANTAGONISTIC: The two drugs produce some **opposite effects**)

EXAMPLE

Stimulants usually cause pupil dilation yet Narcotic Analgesics usually cause constriction; resulting in **WHO KNOWS**???

* Some DRE evaluations have documented drastically **changing pupil sizes within a 45 minute** evaluation.

Journal of Psychopharmacology,

December, 2003

- A British study of **Ecstasy** users in Europe, the United States, and Australia, led by the University of Newcastle upon Tyne, found that those who regularly took the dance club drug were **23 percent more likely to report memory problems** than non-users.
- ***Ecstasy users who also used cannabis were facing a "myriad of memory afflictions which could represent a time bomb of cognitive problems for later life."***

DRUG EVALUATION AND CLASSIFICATION PROGRAM '07

Symptomatology Matrix

MAJOR INDICATORS	CNS DEPRESSANTS	CNS STIMULANTS	HALLUCINOGENS	DISSOCIATIVE ANALGESICS	NARCOTIC ANALGESICS	I NHALANTS	CANNABIS
Horizontal Gaze Nystagmus	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT	NONE
Vertical Nystagmus	PRESENT (high dose)	NONE	NONE	PRESENT	NONE	PRESENT (high dose)	NONE
Lack of Convergence	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT	PRESENT
Pupil Size	[1] NORMAL	DILATED	DILATED	NORMAL	CONSTRICTED	[4] NORMAL	[6]DILATED
Reaction to Light	SLOW	SLOW	[3[NORMAL	NORMAL	LITTLE OR NONE VISIBLE	SLOW	NORMAL
Pulse Rate	[2] DOWN	UP	UP	UP	DOWN	UP	UP
Blood Pressure	DOWN	UP	UP	UP	DOWN	[5] UP / DOWN	UP
Body Temperature	NORMAL	UP	UP	UP	DOWN	UP / DOWN / NORMAL	NORMAL
Muscle Tone	FLACCID	RIGID	RIGID	RIGID	FLACCID	NORMAL / FLACCID	NORMAL
GENERAL INDICATORS	Uncoordinated Disorientation Sluggish Thick, slurred speech **DRUNK-LIKE BEHAVIOR** Gait ataxia Drowsiness Droopy eyes Fumbling	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 Disorientation Difficulty in speech Perspiring Poor perception of time & distance Memory loss Flashbacks	Perspiring Warm to the touch Blank stare Very early angle of HGN onset Difficulty in speech Incomplete verbal response Repetitive speech Increased pain threshold Cyclic behavior Confused agitation 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	Residue of substance around nose and mouth Odor of substance Possible nausea Slurred speech Disorientation Confusion Bloodshot, watery eyes Lack of muscle control Flushed face Non-communicative Intense headaches	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
	*NOTE: With methaqualone, alcohol, Quaaludes, pulse will be elevated & body tremors will be evident. [1] Soma & QUuaaludes usually dilate pupils. [2] Quaaludes & alcohol may elevate.		NOTE: With LSD, piloerection may be observed (goose bumps, hair standing on end) [3] Certain psychedelic amphetamines cause slowing		NOTE1: Hippus may be evident during withdrawal NOTE2: Tolerant users exhibit relatively little psychomotor impairment	[4] Normal but may be dilated [5] Down with anesthetic gases - Up with volatile solvents & aerosols	[6] Possibly normal
DURATION OF EFFECTS	Barbiturates: 1-16 hours Tranquilizers: 4-8 hours Chloral hydrates: 5-8 hours Methaqualone: 4-8 hours	Cocaine: 5-90 minutes Amphetamines: 4-8 hours Methamphetamine: 12 hours	varies widely from one hallucinogen to another - LSD: 4-6 hours Psilocybin: 2-3 hours MDMA: 1-12 hours	Onset: 1-5 minutes Peak effects: 15-30 minutes Exhibits effects up to 4-6 hours	Heroin: 4-6 hours Methadone: Up to 24 hours Others: Vary	6-8 hours for most volatile solvents Anesthetic gases & aerosols - very short duration	2-3 hours - exhibits effects [impairment may last up to 24 hours, without awareness of effects.]
USUAL METHOD OF ADMINISTRATION	Oral Injected (Occasionally)	Insufflation (snorting) Smoked Injected Oral	Oral Insufflation Smoked Injected Transdermal	Smoked Oral Insufflation Injected Eye drops	Injected Oral Smoked Insufflated	Insufflated	Smoked Oral
OVERDOSE SIGNS	Shallow breathing Cold, clammy skin Dilated pupils Rapid, weak pulse Coma	Agitation Hallucinations Convulsions Increased body temperature	Long intense "trip"	Long intense "trip"	Clammy skin Coma Slow, shallow breathing	Coma	Fatigue Paranoia

Relationships to the Categories

	CNS Depressant	CNS Stimulant	Hallucinogen	Dissociative Anesthetic	Narcotic Analgesic	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present *	None	None	Present	None	Present *	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted	Normal *	Dilated *
Reaction To Light	Slow	Slow	Normal *	Normal	Little or None Visible	Slow	Normal

- High dose for that particular person.
- Pupil size may be dilated for Soma and Quaaludes
- Pupil size may be dilated for some inhalants
- Pupil size may be normal
- Certain psychedelic amphetamines may cause slowing

Vital Sign Relationship to the Seven Drug Categories

	CNS Depressant	CNS Stimulant	Hallucinogen	DissAnesthe ticociative	Narcotic Analgesic	Inhalant	Cannabis
Pulse	Down *	Up	Up	Up	Down	Up	Up
Blood Pressure	Down	Up	Up	Up	Down	Up/ Down*	Up
Body Temp	Normal	Up	Up	Up	Down	Up/ Normal/ Down	Normal

- Quaaludes and ETOH may elevate.
- Up for aerosols and volatile solvents and down for anesthetic gases.

MCSHC' 12

8 P'S OF ABUSE FOR PARENT'S

Parents – Strongest influence

Peers – "Everybody" is their core group of friends

Public – Sets the tone in what is done and NOT done

Perception – Makes judgment on "Risk & Approval" **from first 3 P's**

Pleasure – I **like** to use
Passion – I **love** to use
Pain – I **need** to use
Purpose – I **live** to use

Perception

WHY USE?????

- Pressure (self)
- Feelings
- Cope
- USE :: RISK

PERCEPTION

- EN ABLERS
- Avail able
- Afford able
- Accept able

MCSHC'12 STUDENT DRUG TESTING - SDT

Random student drug testing (RSDT), as part of a school's **comprehensive** drug abuse prevention program, is one of the best new ideas for preventing teenage drug use.

www.studentdrugtesting.org

- A CD video provides **answers** to the most-commonly asked **questions** about student random drug-testing programs.
- To request a CD, e-mail **DrugFreeSC@aol.com** providing your name, title, school or district name (if applicable) and the mailing address. Please put "**SDT video**" in the subject line.

Number 1 early warning sign

Parent or person close to child

FEELS something is wrong!

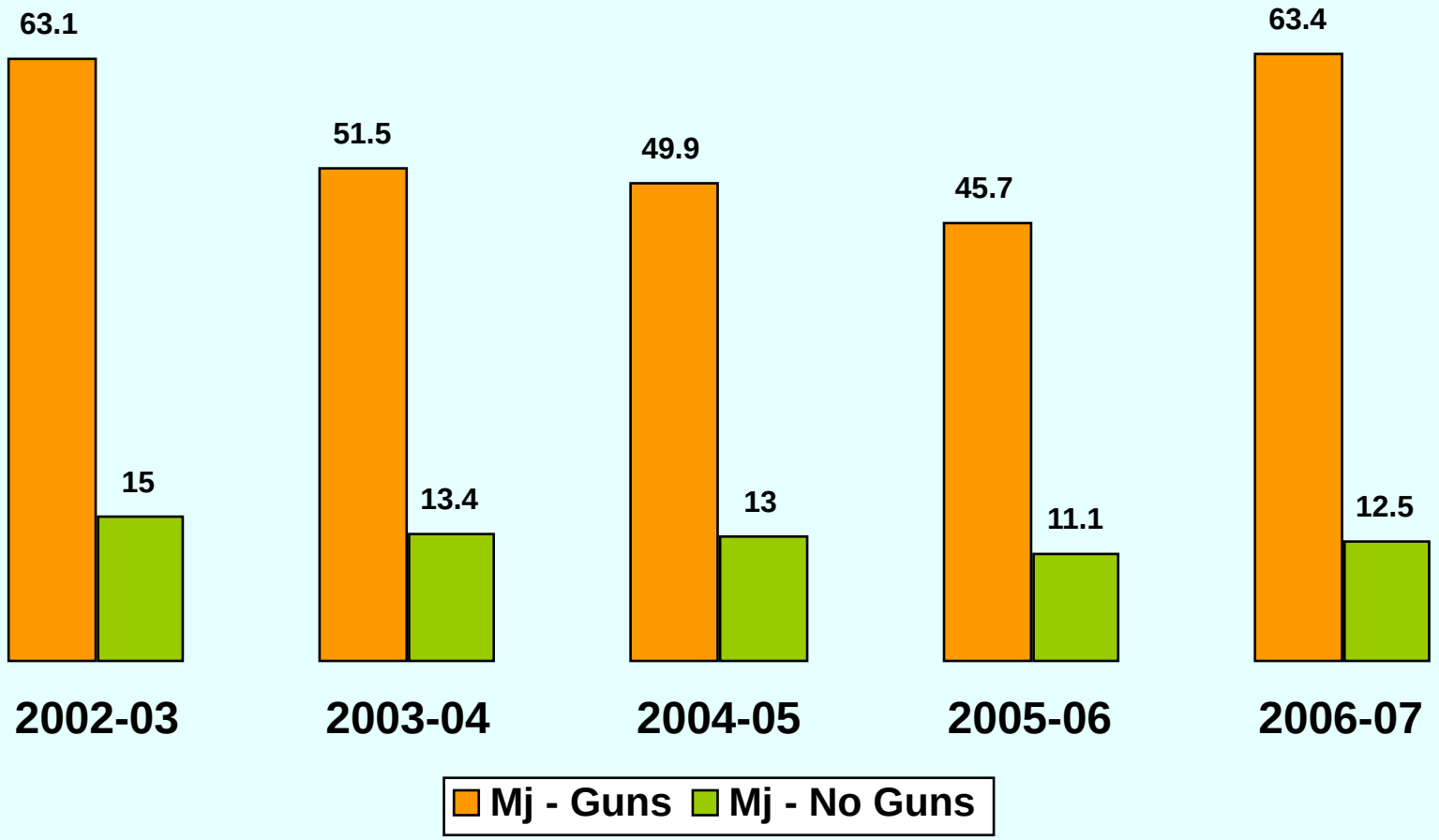
Look closer, something could be:

AND it “might” be drugs?

[ATOD]

MARIJUANA USE OF STUDENTS

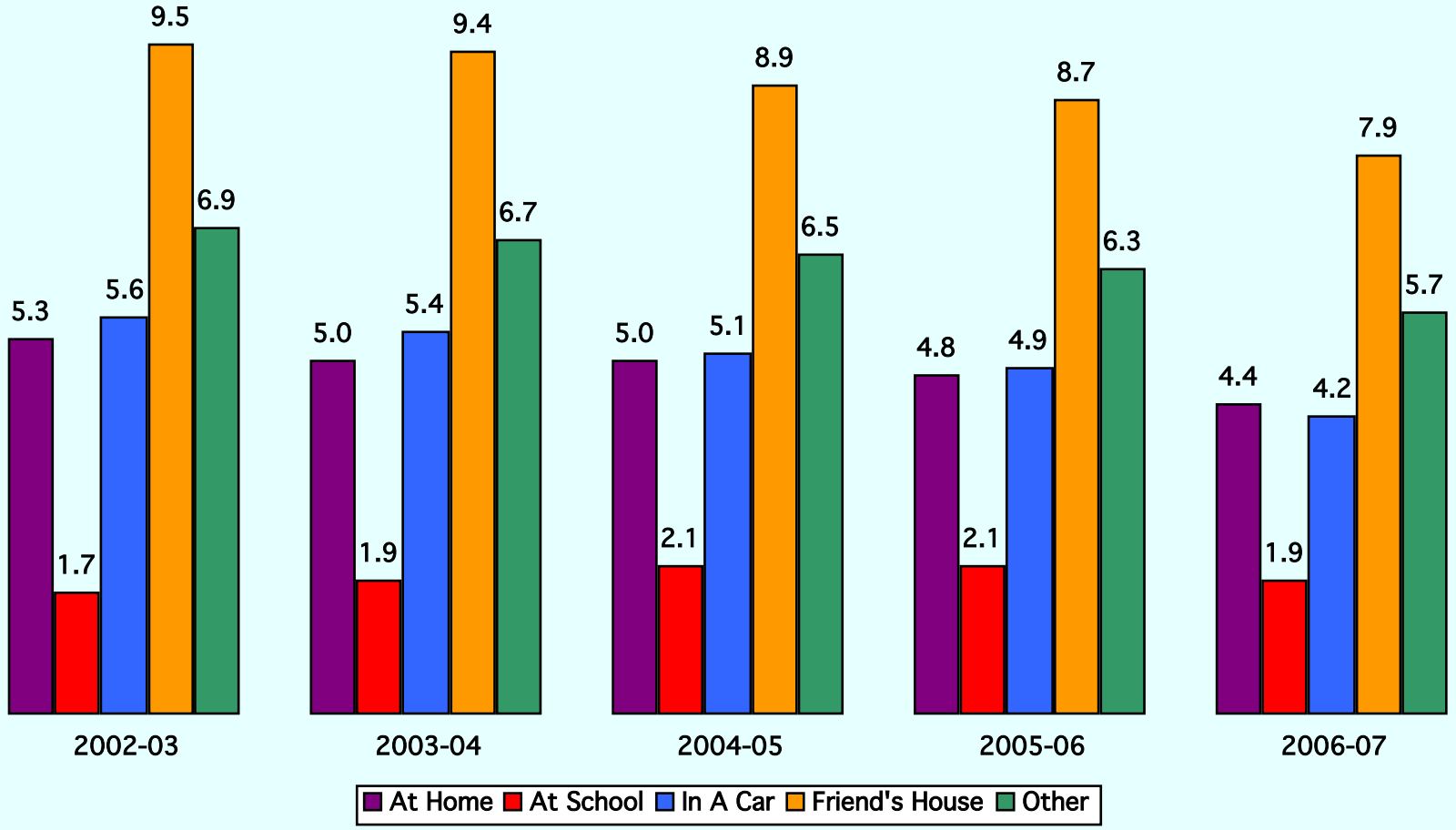
Who Report Carrying Guns to School vs.. Students Who Do Not



Source: Pride Surveys Alabama Statewide Survey

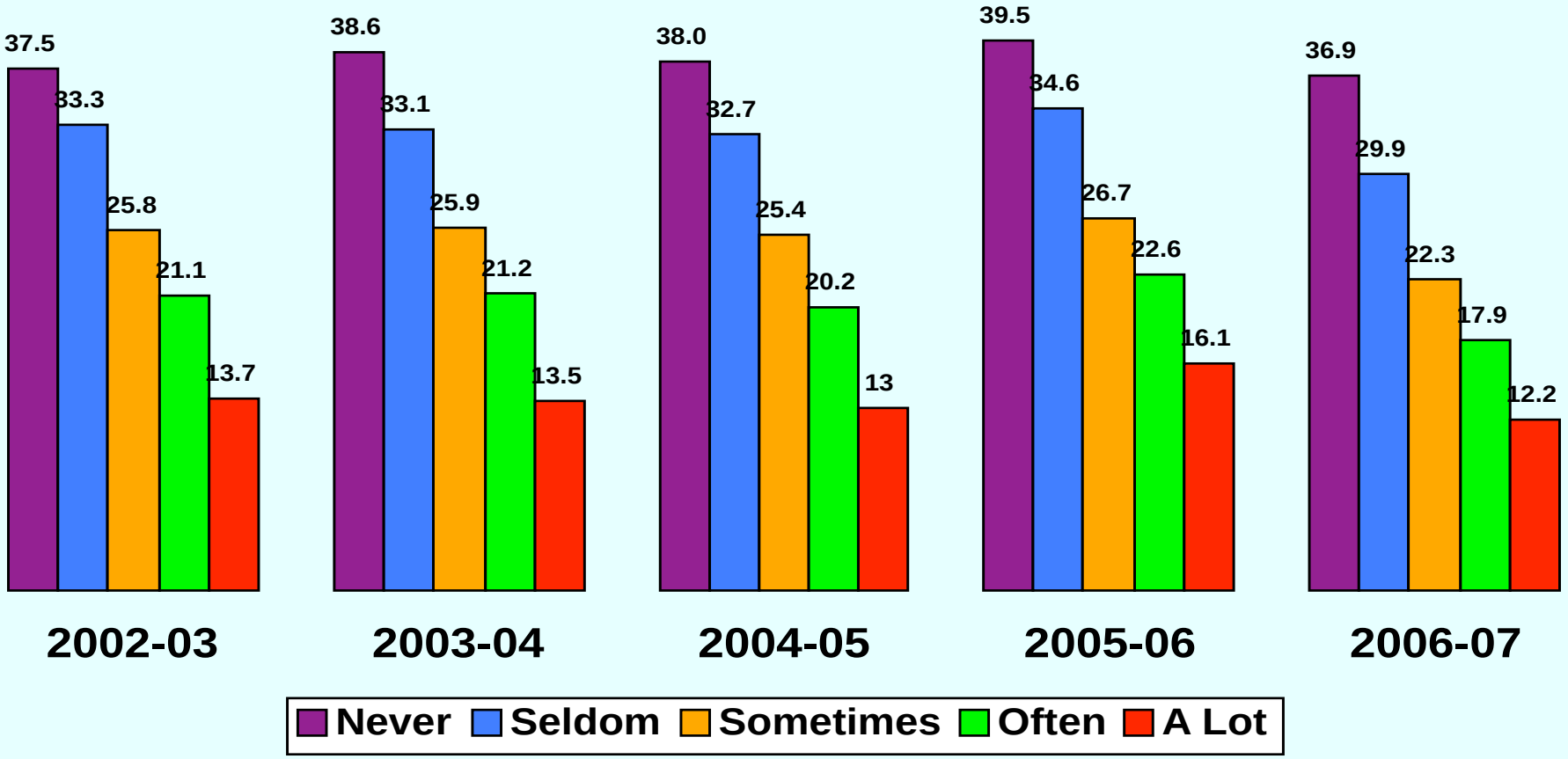
WHERE

Students Report Using Marijuana



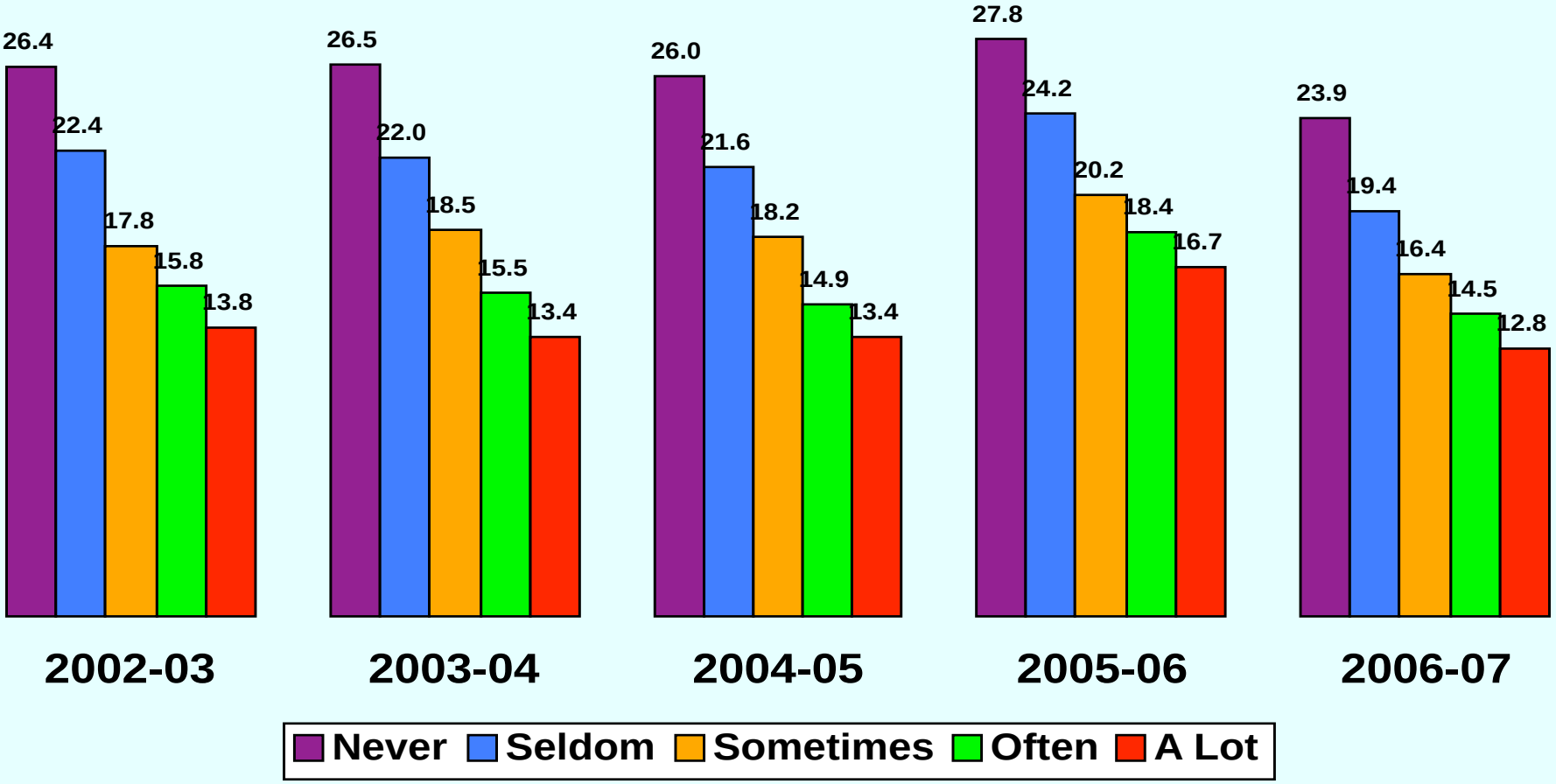
Source: Pride Surveys Alabama Statewide Survey

Illicit Drug Use by Do You Attend Church or Synagogue?



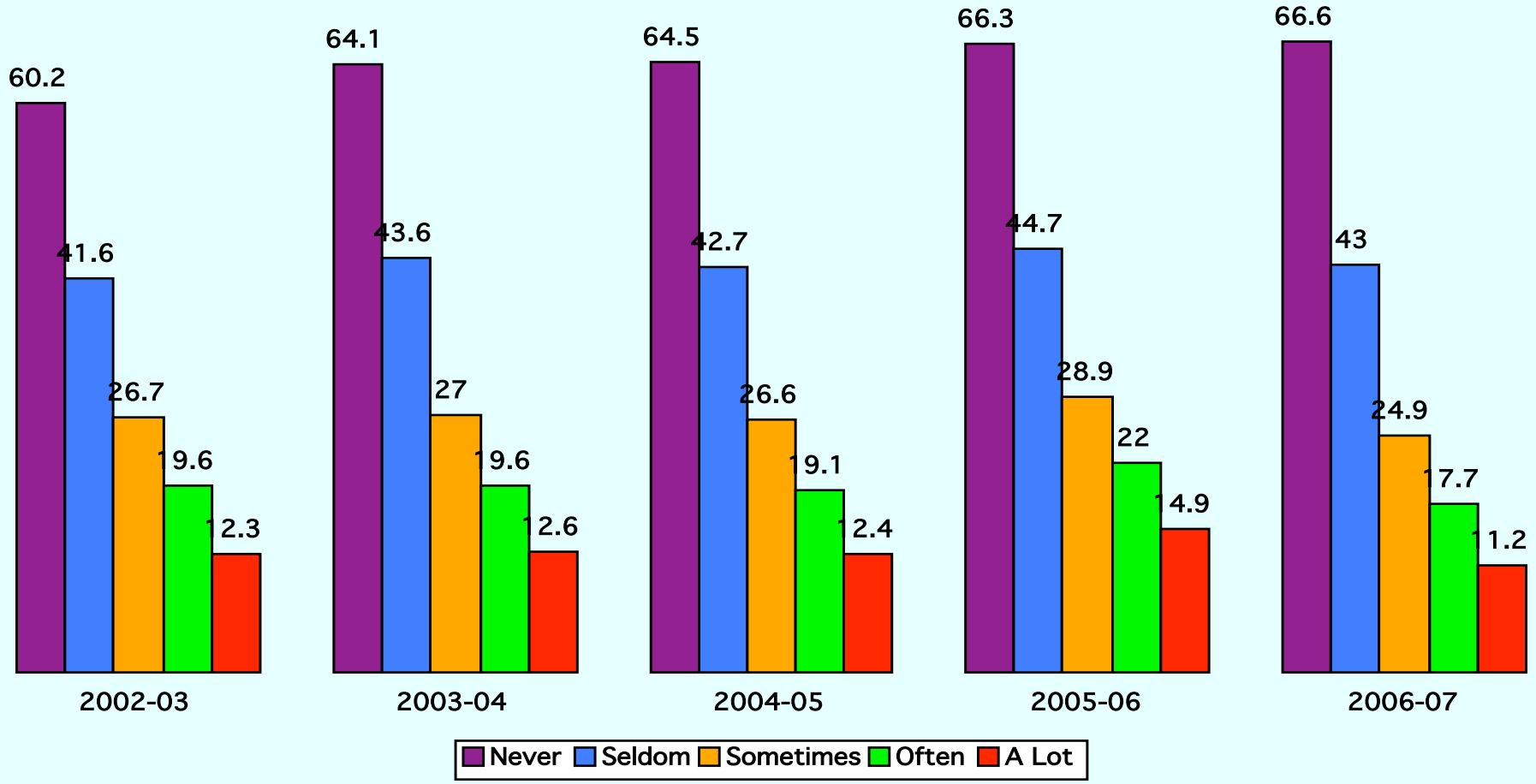
Source: Pride Surveys Alabama Statewide Survey

Illicit Drug Use by Take Part in Community Activities



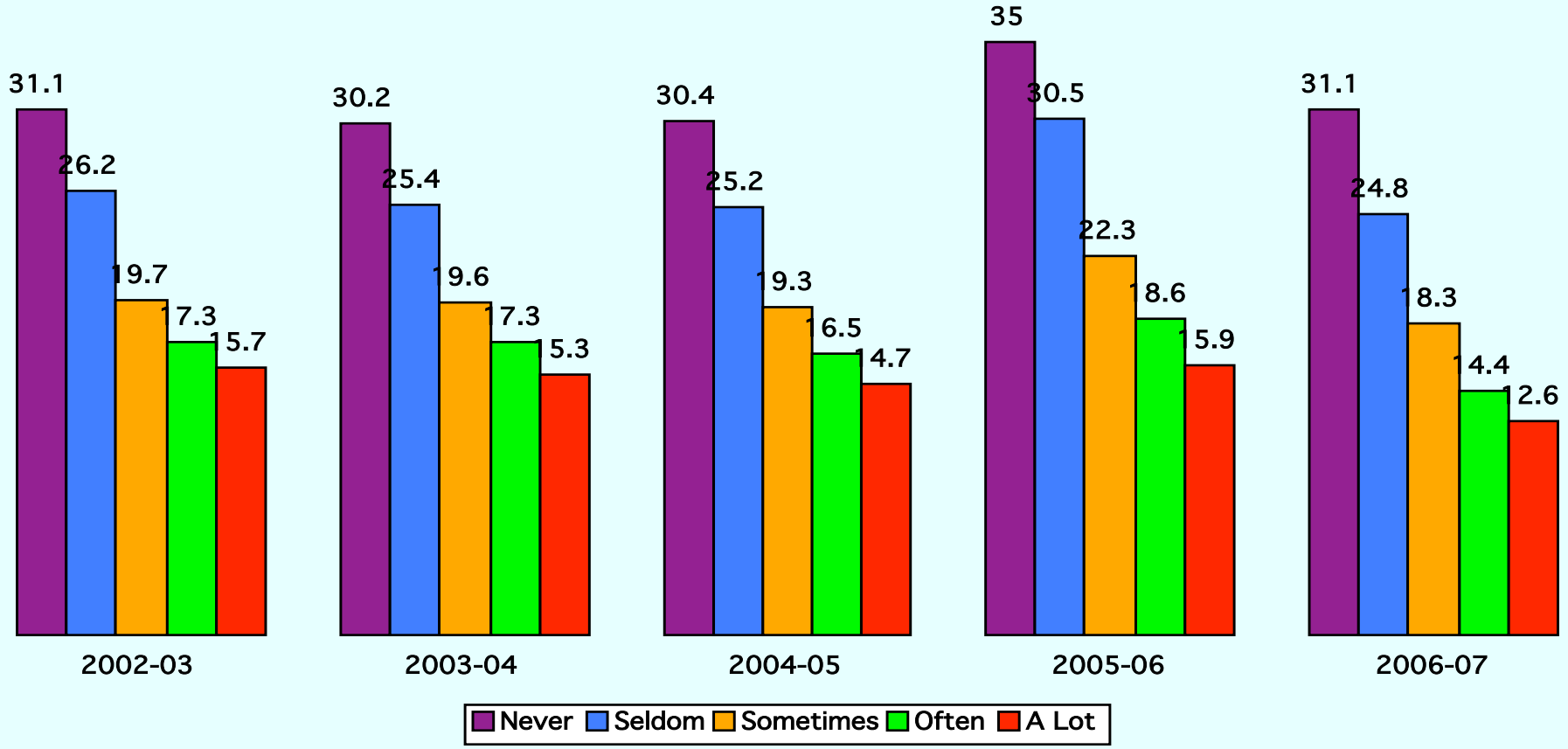
Source: Pride Surveys Alabama Statewide Survey

Illicit Drug Use by Make Good Grades



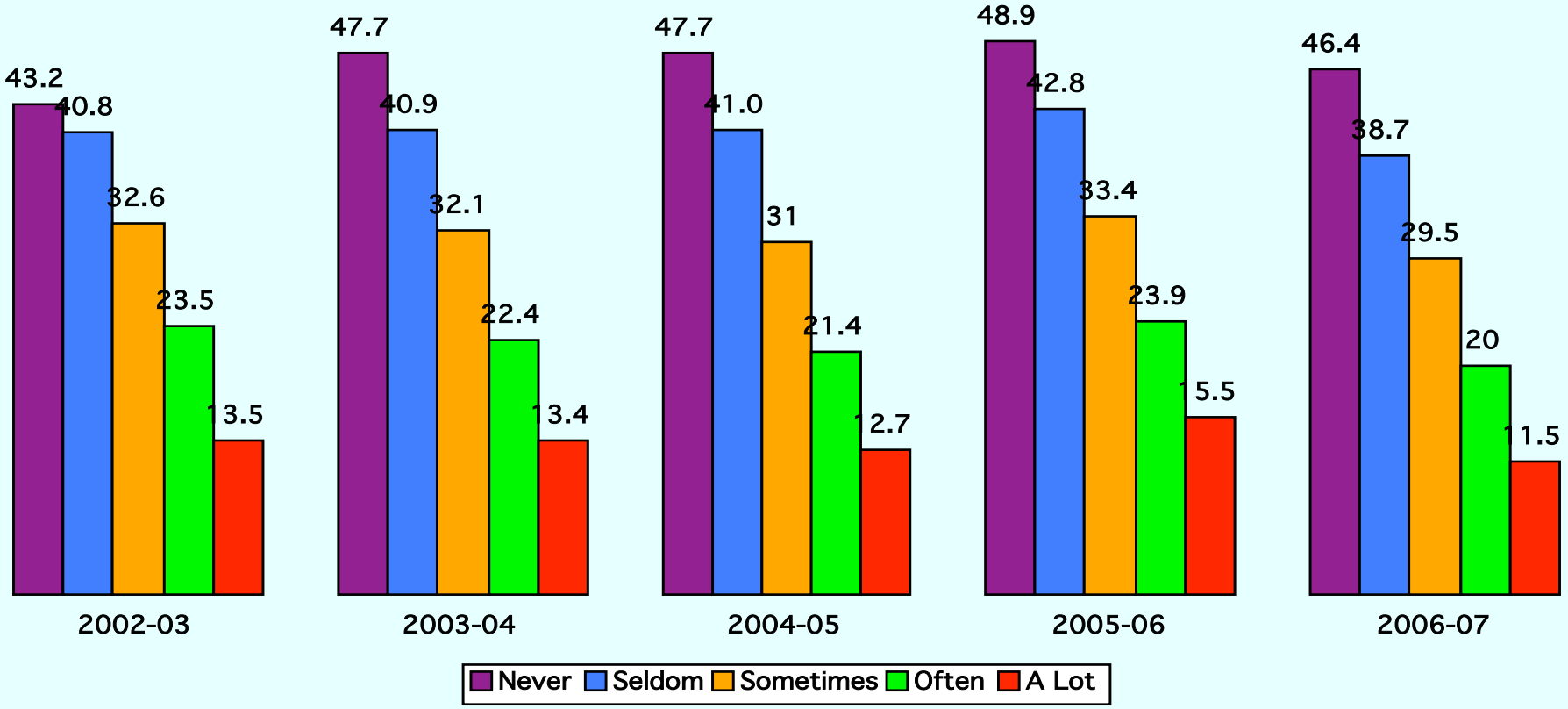
Source: Pride Surveys Alabama Statewide Survey

Illicit Drug Use by Parents Talk About Dangers of Drugs



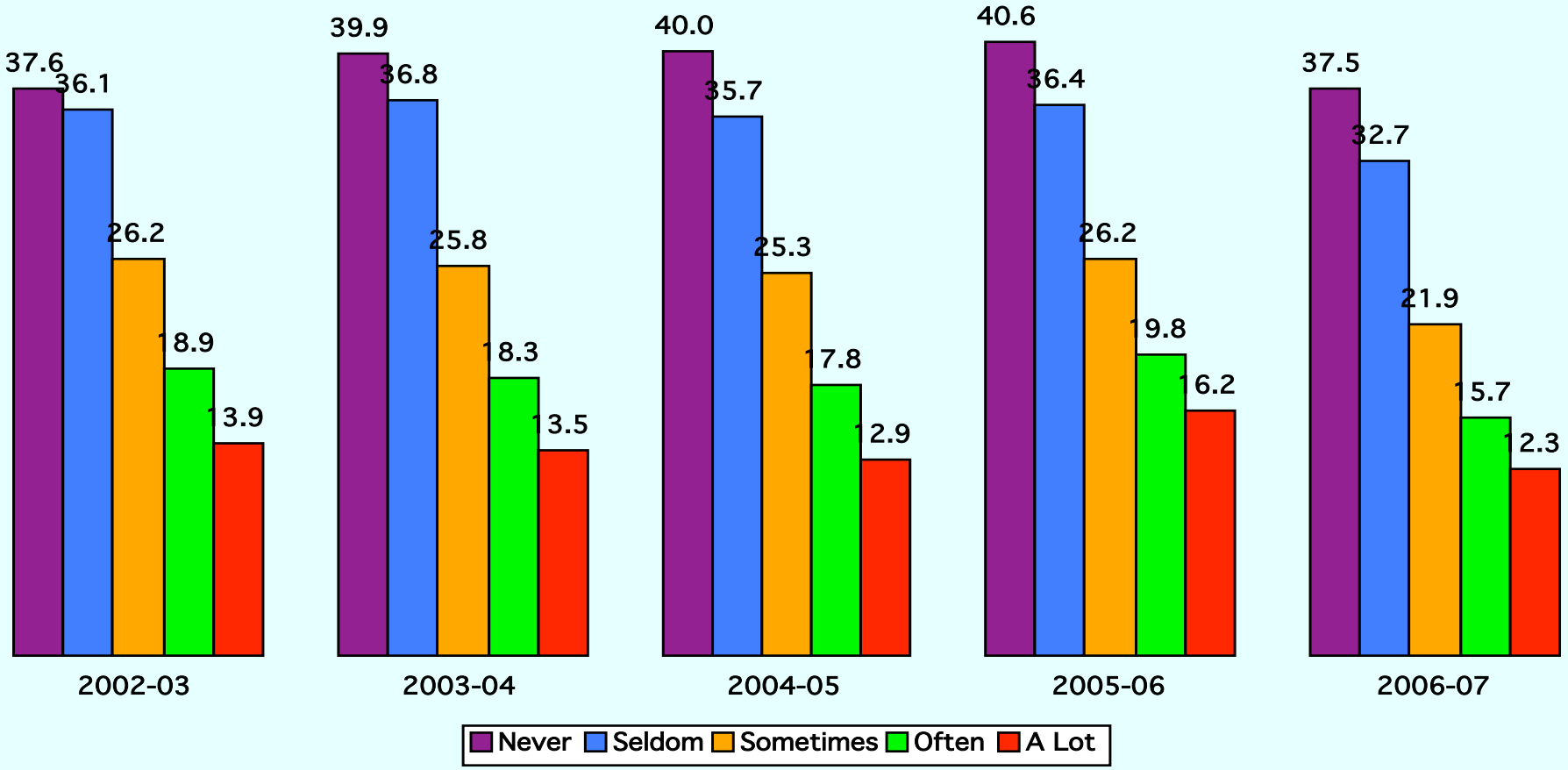
Source: Pride Surveys Alabama Statewide Survey

Illicit Drug Use by Parents Set Clear Rules



Source: Pride Surveys Alabama Statewide Survey

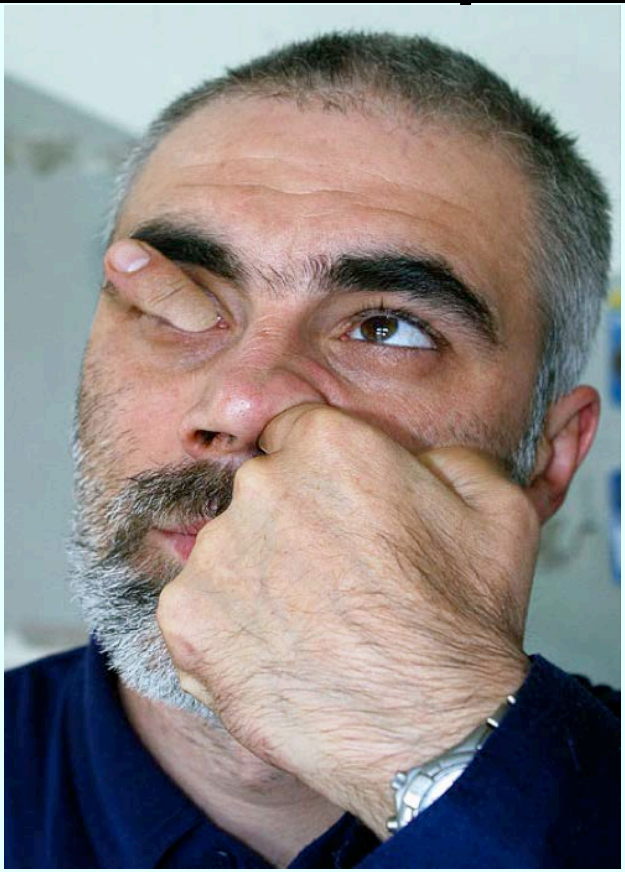
Illicit Drug Use by Parents Enforce Rules



Source: Pride Surveys Alabama Statewide Survey

[Edited photo to make a point]

- Hole in the nose dramatic, but not that significant



Any change in the brain *IS* significant & single biggest problem with *ALL* drugs of abuse

MCSHC' 12

Guess what drug they started with?

DRUG HONEYMOON IS OVER!

Child killed by drinking daddy's chemicals

9 month girl pot smoker

Roaches in dirty diaper

Iowa mailbox bomber

Omaha shooter killed 8

< Burns from daddy's meth lab chemicals

P E T E

A balanced approach is the key in the fight against drugs.

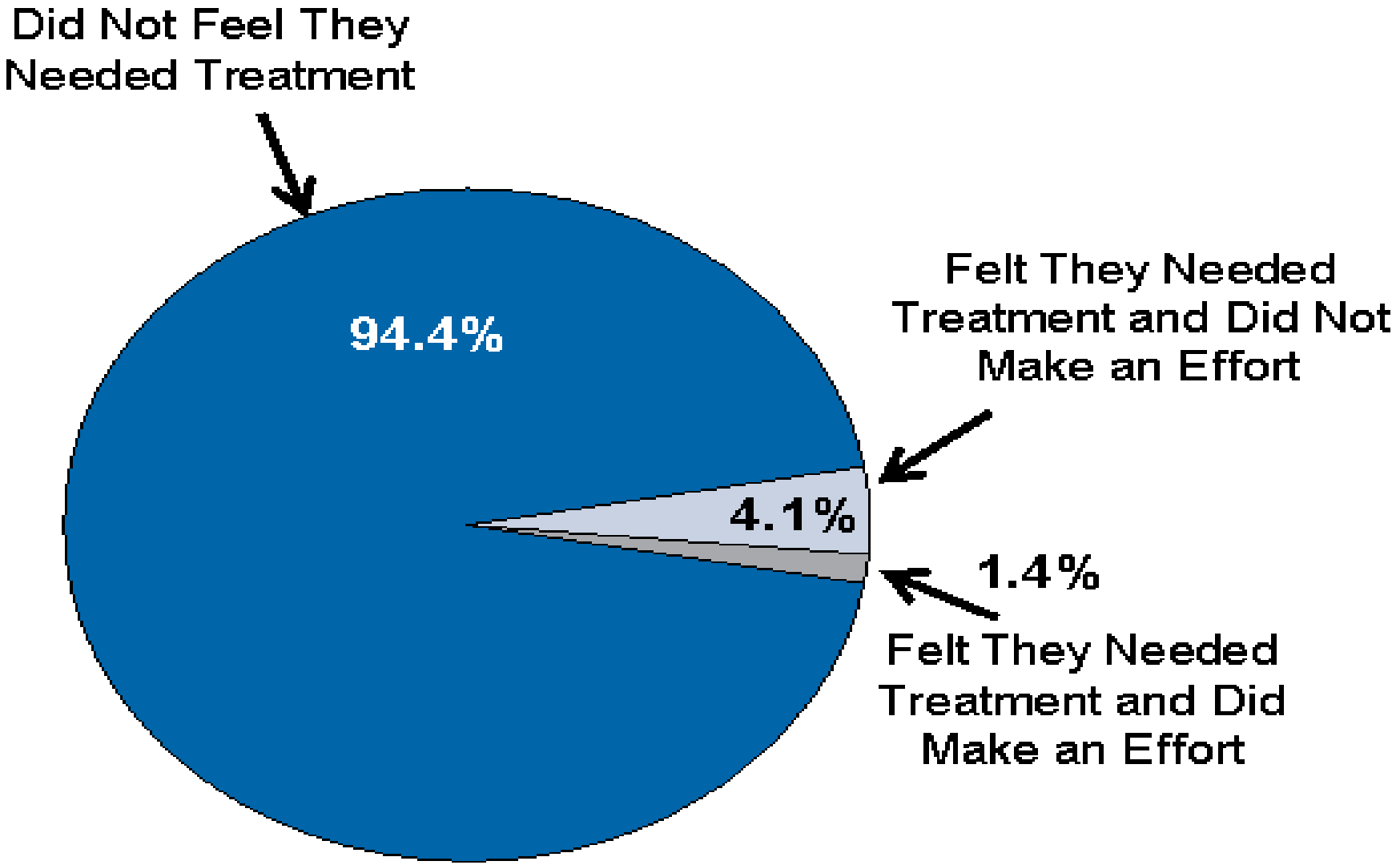
Prevention The most cost effective, the most important, and the least funded. Every Prevention dollar saves $4-10 in counseling - NIDA

• **Education** K-12, DARE, DRE, SBDE, SRO, Parents/Community - Best deterrent is a coalition effort..same message, different perspective

• **Treatment** Drug courts are working better than voluntary treatment NIDA - Modern treatment is much more effective [**Recovery** MRN – Missouri Recovery Network - The Statewide Voice for Recovery - * Education * Celebration * Advocation *]

• **Enforcement**
  – Strong laws reduce supplies and increase prices
  – Enforcement of laws discourage use (55mph vs. 70mph)

Past Year Needed Treatment Age 12 & up NSDUH '05



20.9 Million Needing But Not Receiving Treatment for Illicit Drug or Alcohol Use

DITEP

Drug Impairment Training for Educational Professionals

- **A well stated problem is over half solved.** - Churchill, Winston +

- **To see what is in front of one's nose requires a constant struggle**. - Orwell, George

Main Points????

- **Basic Brain Function**
- **Basic 3 Drug Groups + [4 sub]**
- **Gateway Drugs**
- **Marketing to Children**
- **Solutions YOU**

Time to **STOP** ! **Questions**?

Resources

American Council for Drug Education http://www.acde.org/
Americans For Drug Free Youth http://www.americansfordrugfreeyouth.org/Home.htm
CDC Youth Risk Behavior Surveillance http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5505a1.htm
DAWN Drug Abuse Warning Network https://dawninfo.samhsa.gov/default.asp
DEA Drug Enforcement Administration http://www.dea.gov/
DEC Idaho Conf. Material http://www.isp.state.id.us/DEC_Conference/materials.html
Dept of Education http://www.ed.gov/parents/academic/involve/drugfree/tips_pg6.html
Drug Watch International http://www.drugwatch.org/
Monitoring the Future http://www.monitoringthefuture.org/
National Families in Action http://www.nationalfamilies.org/
National Institute on Alcohol Abuse and Alcoholism http://www.niaaa.nih.gov/
National Survey Drug Use and Health 2005 http://oas.samhsa.gov/NSDUH/2k5NSDUH/2k5results.htm
NHTSA http://www.nhtsa.dot.gov/people/injury/TSFLaws/PDFs/810727W.pdf
NIDA National Institute on Drug Abuse http://www.nida.nih.gov/
Office of National Drug Control Policy http://www.ondcp.gov/
Parents the Antidrug http://www.theantidrug.com/
Partnership For a Drug Free America http://www.drugfree.org/
PRIDE Surveys http://www.cspinet.org/booze/FactSheets/PRIDE2000.htm
Student Drug Testing http://www.studentdrugtesting.org/
Substance Abuse and Mental Health Services Administration
SAMHSA http://prevention.samhsa.gov
SAMHSA Family http://www.family.samhsa.gov
SAMHSA http://www.oas.samhsa.gov/NHSDA/TeenAlc/teenalc.pdf

Lesson Sources
All www.

Whitehousedrugpolicy.gov/hidta/midwest.html

cdc.gov/mmwr/preview/mmwrhtml/ss5505a1.htm

preventionminnesota.com

isp.state.id.us/DEC_Conference/materials.html

nlm.nih.gov/medlineplus/druginfo/medmaster/a682492.html

- cspinet.org/booze/FactSheets/PRIDE2000.htm
- drugfree.org
- Inhalants.org
- madd.org
- oas.samhsa.gov/NSDUH/2k5NSDUH/2k5results.htm
- **iacp.org**
- **nsc.org**
- **decp.org**

QUESTIONS??

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 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**. O

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 Officer's raincoat.

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 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 unusual 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 be normal.

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 **unusual 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 be normal**.

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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 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**. S

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 30 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 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 30 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.

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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 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. D

Scenario VII

You receive a call to assist an 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 exhibit Horizontal Gaze Nystagmus nor 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 appeared reddish. He seems totally unconcerned with the thought of possibly being arrested.

Scenario VII

You receive a call to assist an 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** exhibit **Horizontal Gaze Nystagmus** nor 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 appeared reddish**. He seems **totally unconcerned** with the thought of possibly being arrested. C

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.

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**. CP