

North Carolina Dept of Correction
Division of Community Corrections
Presentation to
the

University of North
Carolina School of
Government

on



The Substance Abuse Screening Program



SASIP

- Comprehensive statewide program offering both instrument based drug screening and non-instrument screening (handheld, instant result)
- Third party confirmation with state-of-the-art GC/MS testing
- Provides drug screening services to outside agencies
- Monitoring of drug trends
- Intervention program development and monitoring
- Training

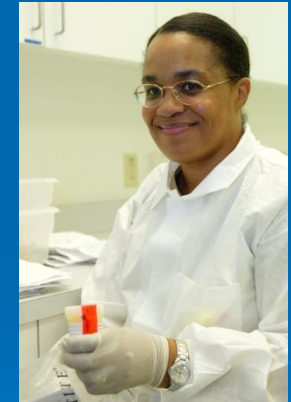
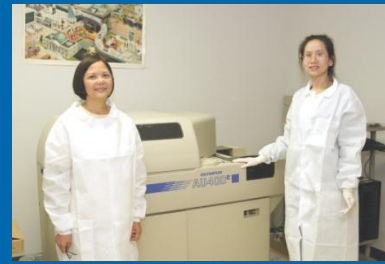
Introduction of SASIP Administration and Staff

Theresa Schwab, the SASIP Administrator, brings in a substance abuse counseling & probationary background to our labs. The most recent experience is 5 years with the Interstate Compact Unit in Raleigh. Previously served as a probation officer facilitating peer support groups, and is licensed as a Substance Abuse Counselor from the State of Virginia.





Steven Worthy brings in over seventeen years of laboratory experience and knowledge, including long-time work for Duke University Medical Center, to the SASIP labs of the NC DOC Division of Community Corrections.




We have labs in Asheville, Greensboro, Greenville, Fayetteville, and Charlotte staffed with two technicians handling over 20,000 total samples, average, per month. Samples are analyzed by the Olympus AU400^e spectrophotometer.



What *IS* Substance Abuse Screening?

Substance Abuse Screening is a supervision tool used to identify offenders with substance abuse problems so appropriate treatment services may be provided.



DCC (Division of Community Corrections) uses Substance screening to :

- Augment substance abuse treatment plans
- Provide validation to encourage offenders to enter treatment

Who Do We Screen?

An offender under delegated authority or whose judgment or parole or post-release supervision agreement includes the special condition to submit to substance abuse screening will submit a urine specimen on a random and/on routine basis under the following conditions:

- The PPO has reason to believe that the offender currently is under the influence of or recently has used illegal drugs
- The offender is observed to be in possession of drugs, or is controlling, occupying or inhabiting an area where illegal drugs are found or observed
- The PPO receives information from a reliable source that the offender is currently under the influence of or has recently used illegal drugs.
- Increased drug screening and staffing for appropriate treatment levels is expected for an offender who continues to test positive.

About DCC Offenders

- The Division of Community Corrections offender population of 113,869* people (FY 2008-09) representing a cross section of all parts of society in NC.
- Drug offenses (trafficking/non-trafficking) make up about 21.6% of our offender population, or a total of 24,673 offenders (FY 2008-09).
- Driving While Impaired (DWI) has 18.4% percent of our probation population for FY 2008-09.
- For FY 2008-09 there were 71,714, down from 72,409 for FY 07-08, new admissions to the total offender population under DCC control. 73,322 , up from 72,183 for FY 08-09, were released from supervision during that period.

When completed correctly, Substance Abuse Screening:

- Acts as a deterrent to ongoing drug use & abuse
- Provides immediate challenge to positive use with onsite devices and notification to treatment provider, or treatment provider referral.

When to test Urine

- RANDOM TESTING
- CAUSE AND SUSPICION

RANDOM TESTING

- The key is to not be predictable to the point where the offender will abstain or otherwise be prepared for *scheduled* drug screening.

CAUSE AND SUSPICION

- Reason to believe or have information from a reliable source the offender is under the influence of illicit drugs or has used them.

What Drugs Do We Screen For?

➤ Lab Screens

- Cannabinoids/THC/Marijuana 50 ng/ml
- Cocaine 300 ng/ml
- Opiates 300 ng/ml
- Meth/amphetamines 1000 ng/ml



Onsite Screens

Same drugs as above and:
Benzos (Benzodiazepene)
Propoxyphene
Methadone
Oxycodone
Barbiturates
PCP
Alcohol

Cut-off Levels

positive
test



300ng/ml

negative
test



NEGATIVE DOES NOT MEAN NO DRUG

What About??



➤ Ecstasy

Ecstasy is picked up by the DCC Laboratory

methamphetamine/amphetamine reagent.

A positive for ecstasy would be denoted as positive for meth/amphetamine.

Average Detection Times for Drugs

THC	2-3 Days to 10-12 days
Cocaine	6-72 Hours
Opiates	1-2 Days
Amphetamines	1-2 Days
Methadone	2-3 Days
Benzodiazepines	2-3 Days to weeks

OPIATES

The term “opiate” refers to narcotic or “pain-killing” drugs such as Morphine and Heroin which are derived from opium. Opium is the sap of the “opium poppy”, as it is commonly called, or more specifically the plant *Papaver somniferum*. In addition to the opiate drugs there exist other similar drugs referred to as “Opioids”.

Opioids are other drugs which have similar effects to the naturally occurring opiates as a result of their interaction with the brain’s opiate receptors.



Resolution of Opiate Positives: Poppy Seeds or not?

- Examine claimed consumption (positives unlikely for >1 day)
- Eliminate seeds from diet, collect another specimen after 3 days
- Test for 6-monoacetylmorphine (presence proves heroin use)
- Measure total morphine levels (>5000ng/ml unlikely for seeds)
- Measure morphine/codeine ratio (morphine >codeine for seeds)

Oxycodone, Oxycontin, Percocet

These drugs belong to the opiate drug class.

An individual who is currently using one of these drugs would test positive for opiates which would result in a positive opiate result being posted.

VARIABLES:

1. The drug is in the body for a short period of time.
2. Dilution easily lowers the drug concentration in the urine and may decrease the window of detection period.
3. The amount of drug taken can be an issue. Was it a slow release dosage or was it a pill that you take every 4 hours?

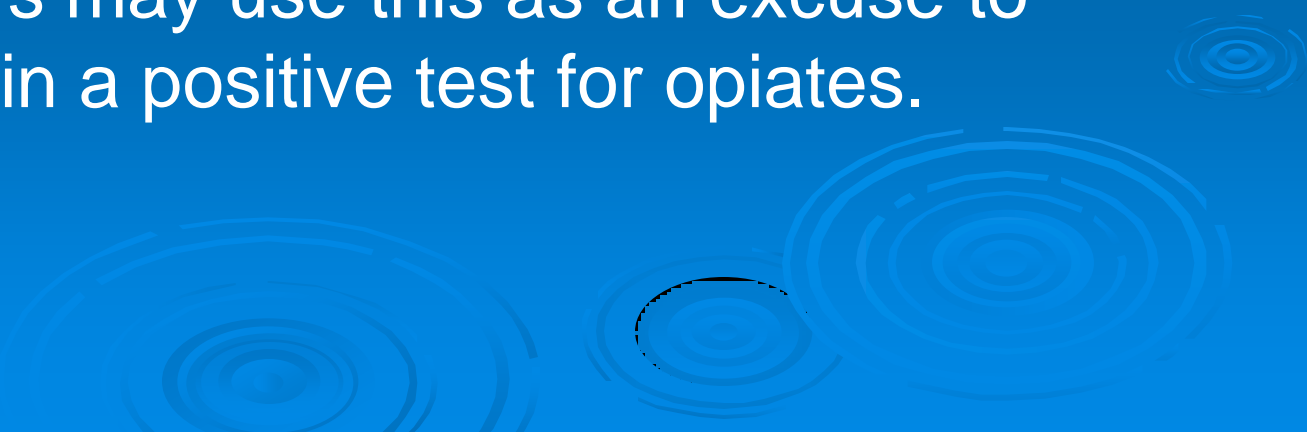
Methadone

- Maintenance medication for opioid addicts to alleviate craving and withdrawal symptoms.
- Treatment of chronic and severe pain
- More available in patient populations.....increase for pain.....increased recreational use
- Increased death due to illicit use, additional drugs being used, etc

Also remember...

Methadone does **not** cause
a positive result for opiates.

Offenders may use this as an excuse to
explain a positive test for opiates.

The background of the slide features several concentric, light blue circular ripples that resemble water droplets hitting a surface, scattered across the lower half of the frame.

URINE TESTING

Our main method of screening for drugs is through urine by means of our laboratory or utilization of onsite tests.

Urine Testing Benefits

- Drugs may be detected for a longer period of time within urine with a higher concentration of drug metabolites within the body's waste supply.
- Lab instruments & on-site urine tests (discussed later in this presentation) can screen for numerous drugs of abuse.
- Multiple panel on-site urine tests will determine potential drug(s) of choice and allow for future concentration of drug testing & treatment focus.

DCC policy for Specimen Collection

- Orientation given of what's expected and what will occur after sample is received.
- Same Sex observation needed. Allow the use of a bluing agent should a same sex observer not be available.
- NO extra clothing, purses, or other items are allowed into the restroom.

- Insure the offender remains in the presence of the officer without access to a water fountain, faucet, soap dispenser, cleaning agent, or other material which could be used to adulterate (methods discussed later in the presentation) the specimen.

- Insure the offender rolls up his or her sleeves and washes hands prior to administering the specimen for testing.

- Complete DCC Chain of Custody Form
- Have offender initial and place tamper proof evidence tape on their specimen
- Offender adds identification label after confirmation of all information on label is correct. Check for leaks.
- Offender places the specimen in transport bag and officer must observe specimen is sealed within.
- Sample is placed in a secure environment inaccessible to unauthorized persons.

LABORATORY TESTING



We screen for urine in our labs by use of the Olympus AU400^e chemistry analyzer.

**How does the Analyzer
work ???**

It's quite simple.....

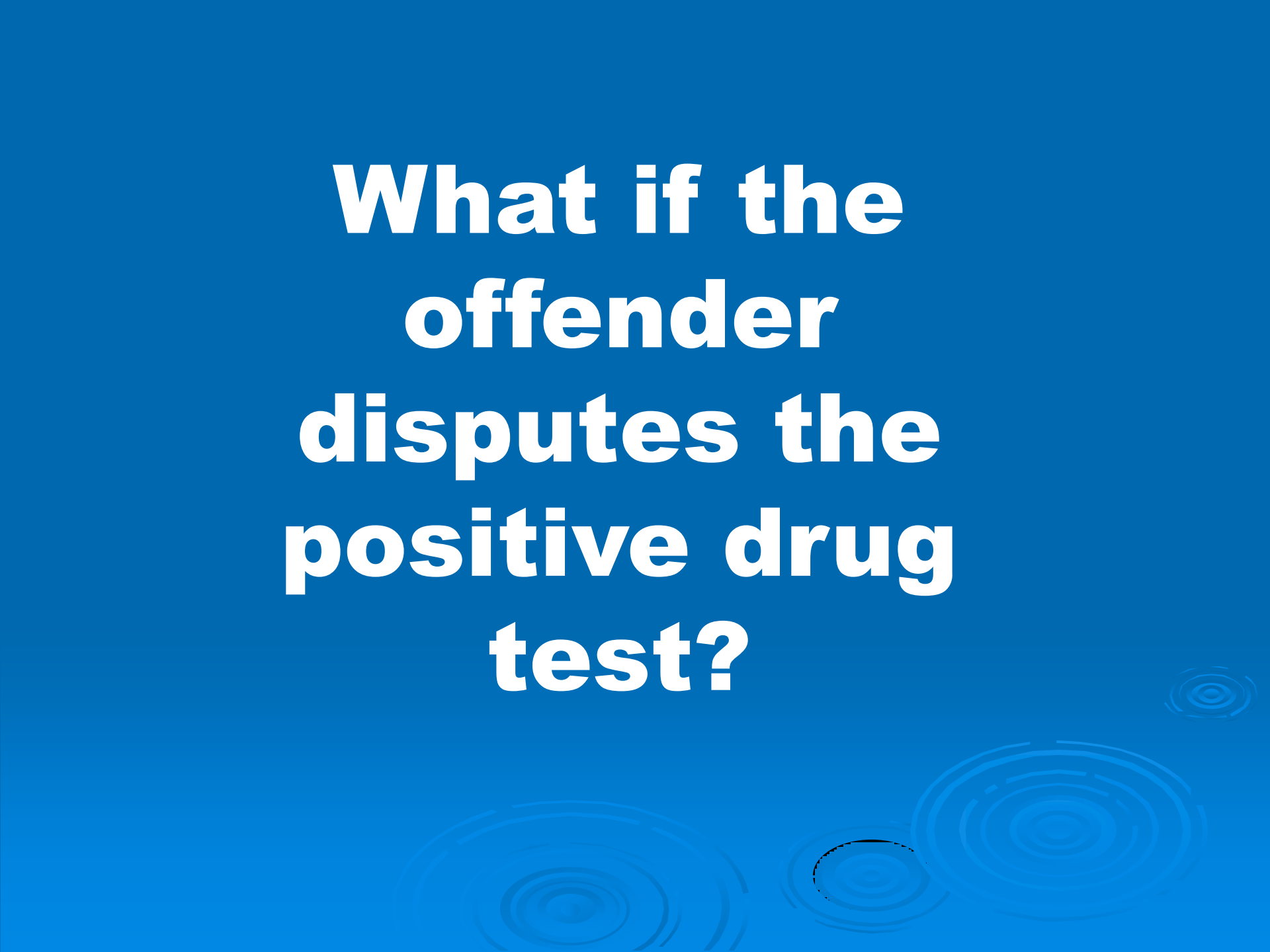


...as shining a flashlight beam through a test tube!

Here's how it works:

- The AU400e is a spectrophotometer which measures light separated by a compound and its absorbance after it passes through its sample.
- By mixing the samples with special reagents, the compounds refract light from the beam (our 'flashlight') projected onto the test tube into different wavelengths and its absorbance is measured. Different levels for the different reagents indicates the different drug levels.

**What if the
offender
disputes the
positive drug
test?**



A confirmation test is ordered.

An officer can request a confirmation test by GC/MS (gas chromatograph/mass spectrometry) from a third party, or outside, lab for a definite answer.

Our analyzers are quite precise but when results are disputed, outside labs with no interest in the outcome, perform the testing.

FAYETTEVILLE SAS LAB
ATTN:
412 W RUSSELL ST-RM 67
FAYETTEVILLE, NC 28301

RESULTS OF CONTROLLED SUBSTANCE TEST - NON-WORKPLACE URINE

Donor Name:
Donor ID #:

Specimen Drug Status: POSITIVE

Specimen ID #:
Accession #: NONE ASSIGNED
Reason for Test: ROUTINE
Agent: KAS

Date Collected: 11/06/2007
Time Collected: 1820
Date Received: 11/20/2007
Date Reported: 11/21/2007

Class or Analyte	Result	Screen Cut-Off	Confirmation Cut-Off
CANNABINOIDS			
DELTA-9-CARBOXY-THC	* POSITIVE at 413 ng/mL		3 ng/mL
Validity Test	Result		Normal Range
CREATININE	NORMAL		≥ 20 mg/dL
SPECIFIC GRAVITY	NORMAL		≥ 1.003
pH	NORMAL		3.01 - 10.99

CONFIRMED POSITIVE BY GC/MS FOR DELTA-9-CARBOXY-THC.

An example of confirmation paperwork from the third party laboratory which details a positive test of drug found in the urine sample as determined by GC/MS analysis.

FAYETTEVILLE SAS LAB
ATTN:
412 W RUSSELL ST-RM 67
FAYETTEVILLE, NC 28301

RESULTS OF CONTROLLED SUBSTANCE TEST - NON-WORKPLACE URINE

Donor Name:
Donor ID #:

Specimen Drug Status: NEGATIVE
Specimen Validity Status: DILUTE

Specimen ID #:
Accession #: NONE ASSIGNED
Reason for Test: ROUTINE
Agent: JONES

Date Collected: 12/12/2007
Time Collected: NOT GIVEN
Date Received: 12/18/2007
Date Reported: 12/21/2007

Class or Analyte	Result	Screen Cut-Off	Confirmation Cut-Off
CANNABINOIDS			
DELTA-9-CARBOXY-THC	NEGATIVE		3 ng/mL
Validity Test	Result		Normal Range
CREATININE	* ABNORMAL		≥ 20 mg/dL
SPECIFIC GRAVITY	* ABNORMAL		≥ 1.003
PH	NORMAL		3.01 - 10.99

NEGATIVE BY GC/MS FOR DELTA-9-CARBOXY-THC.


In this negative urine confirmation test, the sample given was dilute and possibly adulterated with excess water or another solution to mask the offender using marijuana.



An example of a typical tabletop GC/MS analyzer; Agilent 5975 What is used to perform the sample confirmations will look similar in design.

- **What's a GC/MS & how does it work?**

Simply put, a GC/MS, Gas chromatograph /mass spectrometer, is an analyzer which uses heat and gas to separate a compound (chromatograph) and an analyzer to detect the various levels of molecules in the chemical compound.



To better explain how it works, let's think about salsa and examine this as if it's a compound such as fluids from the body.






For example, we're looking for the number, or concentration, of onions in the salsa and compare that to a concentration of a drug compound found in urine.

From this point, the salsa is prepared in such a way where it is 'separated' into its individual components, this is the Gas Chromatograph (GC) part, and the Mass Spectrometry (MS) part of the analyzer uses standards in preparation to tell us how many onions, the concentration, in our salsa compound. The urine testing is done in a similar method.



Please keep in mind, lab work does **NOT** operate as it does on the popular CSI TV series. We do not receive answers from analyzers in 30 seconds on identifying and interpreting a compound!



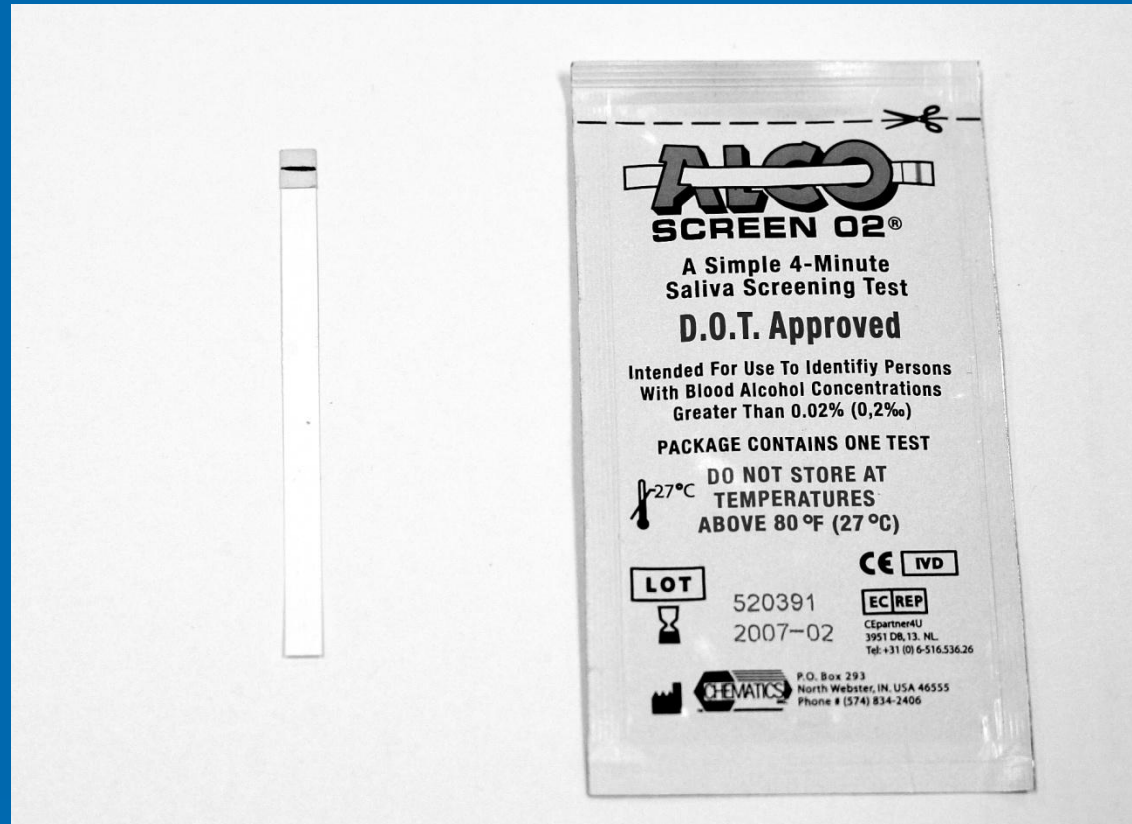
On-site Testing

We use a couple of types of on-site testing within our department :

- Oral Alcohol Onsites
- Drug Panel (single to multi-) urine on-site testing

.....and will touch on other types of onsite testing available and discuss their advantages and disadvantages.

Alcohol On-site testing

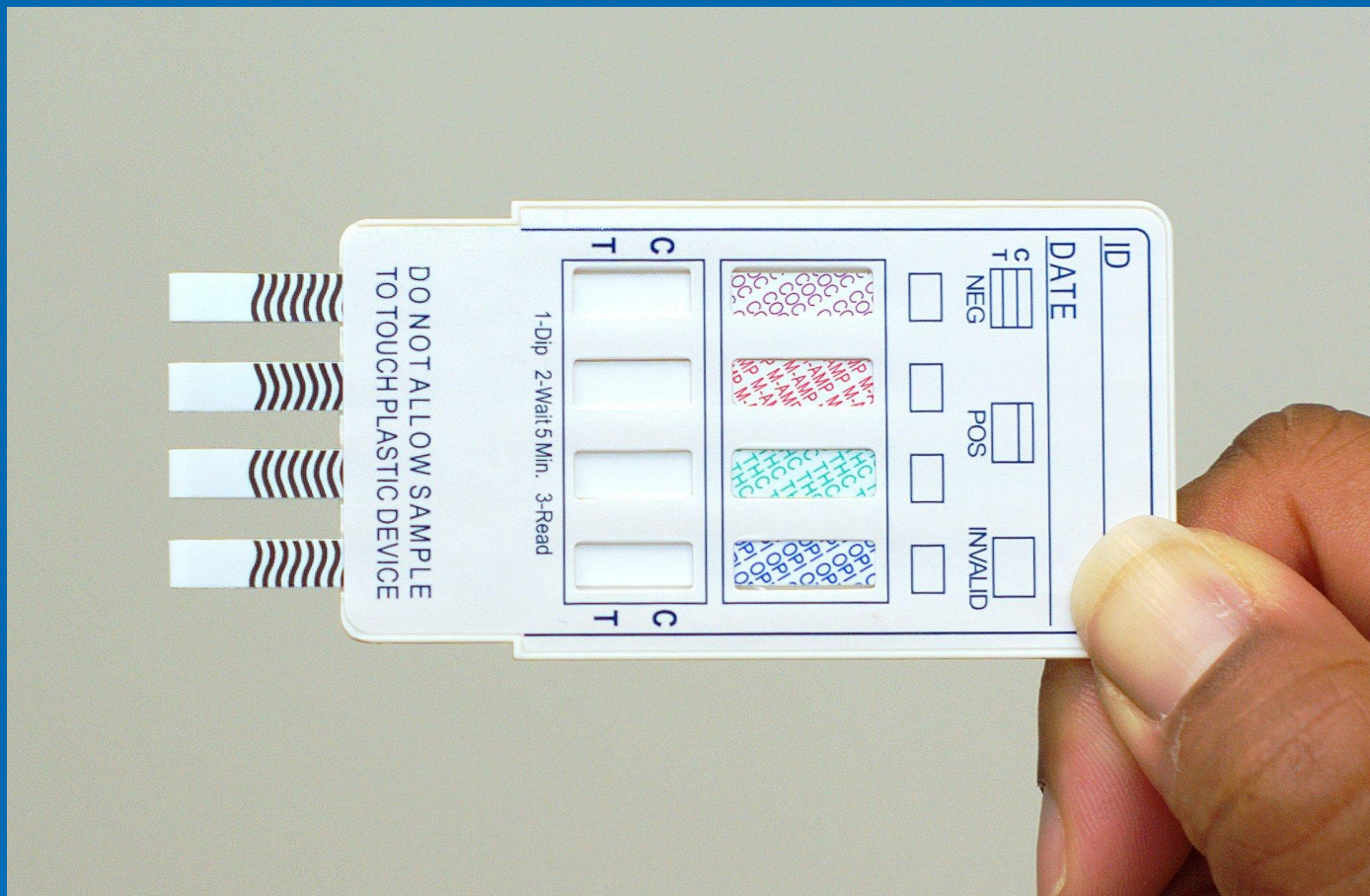


- Federal DOT approved Test
- Enforcement of court ordered alcohol abstinence
- Used by parole/probation officers to determine defendant's "failure to report in a reasonable manner".



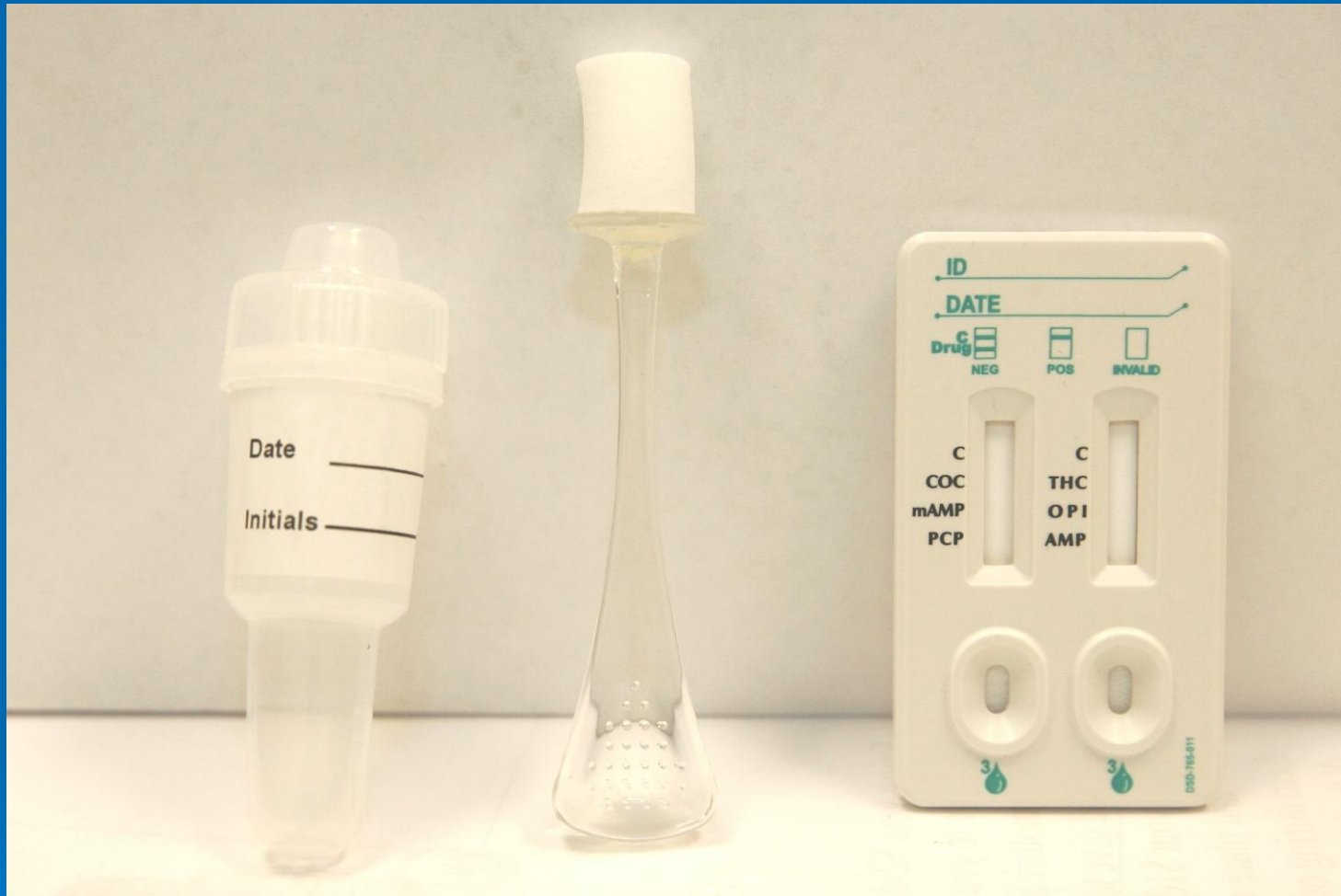
- Test given after 15 minutes observation period of no objects introduced into the mouth
- Detects presence of alcohol, .02% blood level, within 4 minutes.

Urine ON-site testing



When lab testing is not available and an offender needs immediate testing, we will utilize on-site urine tests. Pictured here is a four-panel unit which tests for cocaine (COC), methamphetamines, marijuana, and opiates. First, conduct a general screen using the labs and do further testing of the offender using the onsite test to determine the drug of choice.

Saliva Testing



Here is a typical saliva test. The subject fully saturates the swab, with saliva, takes about three minutes, and squeezes it into the container . Drops of saliva from the container are put onto the onsite test and can give a result after ten minutes.

Drug Screening by Sweat Patch



The sweat patch is used for long term monitoring of an offender over a two week period.

A disadvantage to this method is the patch can be contaminated giving a false negative. Also, costs may be a bit higher as well when compared to other types of testing. Also, how much a person sweats can vary the results greatly.

Testing Hair for Drug Screening

Testing of hair follicles for presence of drugs

•ADVANTAGES

- Long detection window-up to 90 days
- Detected with GC/MS for accuracy

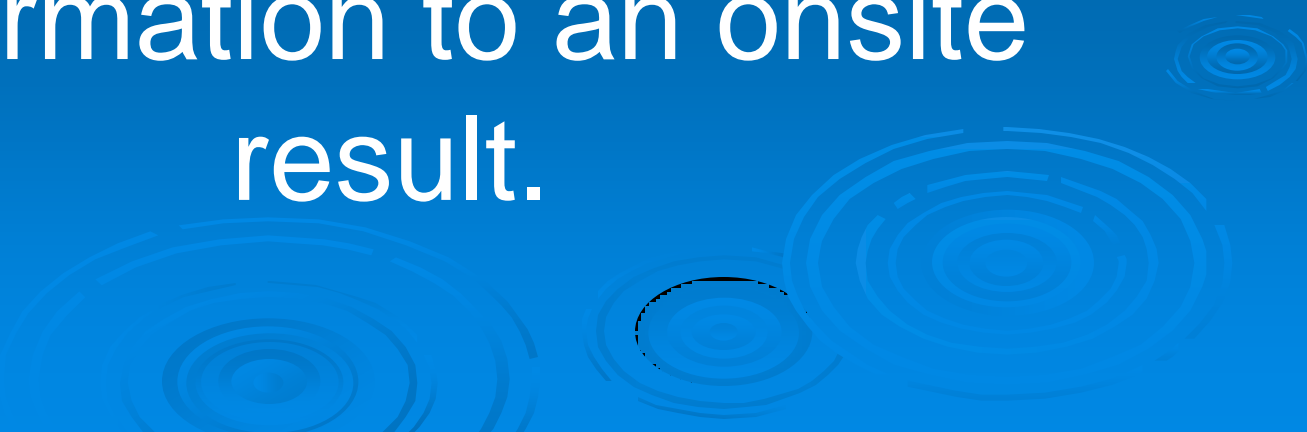
DISADVANTAGES

- Extremely specific sampling procedures (samples must be taken 2.5-4cm from scalp (~1 to 1½ inches).
- Cost per test is expensive due to lab procedures.

Comparison of Urine, Sweat, and Hair Testing for Cocaine and Heroin

Issues	Urine	Sweat Patch	Hair
Type of Measure	Incremental	Cumulative	Cumulative
Invasiveness	High	Low	Low
Detection Period	2-3 days	Weeks	Months-Years
Risk of False Positives*	Low	High	High
Risk of False Negatives**	High	Undetermined	Undetermined
Risk of Adulteration	High	Undetermined	Low
Technological Development			
<i>Screening Assays</i>	Plentiful	Needed	Needed
<i>Confirmation Assays</i>	Plentiful	Needed	Needed
<i>Cutoffs</i>	Established	Needed	Needed
<i>Control Materials</i>	Plentiful	Needed	Needed
Cost Per Unit Test	Low	Undetermined	High

If unsure on the result
from an on-site test,
please consult one of our
our labs to test the
sample but NOT as a
confirmation to an onsite
result.



Specimen Validity Testing

Adulteration

The act of introducing a substance(s) into the urine specimen to intentionally nullify the result of and disrupt the screening chemistry.

Examples of adulteration

Bleach, Perfume, Nitrites, Sure-jell, UrineLuck
Lysol (yellow), substituted urine.

Methods of Adulteration

Substitution

External Adulteration

Internal Adulteration



External Adulteration



An example of an sample, a diluted bleach solution, came into one of our labs. When compared to another sample from the same offender given four days later.....



.....you can see the obvious difference. This demonstrates the efforts offenders will take in order to “pass” a urine screening. An on-site test would have passed the adulterated sample.

UrineLuck- an example of another external adulterant used to change the condition of urine. It instructs the user to pour in 60-90mls of urine and insists on urination several times before adding this compound. In other words, diluting out urine NATURALLY before use. All for \$31.95.



Internal Adulteration

Offenders may try to throw screenings by use of:

- Water loading-drinking large amounts of water before a test, more than 16 oz to dilute urine.



- Shake products-products added to WATER and ingested prior to screens.

MAGNUM : Another example of a product for internal urine adulteration which instructs the user to DRINK a liquid to dilute before giving a drug screen. Basically, a glorified and pricey Gatorade drink.



Another external adulterant called the **Acme Total Eclipse Berry Blast** is sold at a vitamin shop. For \$44.99 (16 oz), it's advertised to detoxify a system and requires the user to urinate several times before use.

The Whizzinator

An example of substitution adulteration pulled off some offenders, the Whizzinator.

It is said to look and feel real and has fooled some officers in the past. Freeze-dried urine is provided from the maker OR someone else's CLEAN urine is put into the bladder and given as the sample.

The Whizzinator: Home Edition

This device was discovered in Cumberland County in June 2008 when an officer noticed an offender was having problems giving a sample and tinkering with a device. The person was searched and this was discovered; a saline IV bag with urine inside and sealed with duct tape.



§ 14-401.20. Defrauding drug and alcohol screening tests; penalty.

- (a) It is unlawful for a person to do any of the following:
- (1) Sell, give away, distribute, or market urine in this State or transport urine into this State with the intent that it be used to defraud a drug or alcohol screening test.
 - (2) Attempt to foil or defeat a drug or alcohol screening test by the substitution or spiking of a sample or the advertisement of a substitution or other spiking measure.
- or
sample device or

- (b) It is unlawful for a person to do any of the following:
- (1) Adulterate a urine or other bodily fluid sample with the intent to defraud a drug or alcohol screening test.
 - (2) Possess adulterants that are intended to be used to adulterate a urine or other bodily fluid sample for the purpose of defrauding a drug or alcohol screening test.
 - (3) Sell adulterants with the intent that they be used to adulterate a urine or other bodily fluid sample for the purpose of defrauding a drug or alcohol screening test.

c) A violation of this section is punishable as follows:

(1) For a first offense under this section, the person is guilty of a Class 1 misdemeanor.

(2) For a second or subsequent offense under this section, the person is guilty of a Class I felony. (2002-183, s. 1.)

INTERVENTION

Programs we can offer to help offenders defeat their habit if they want to change:

- DART- DART-Drug Alcohol Rehabilitation Treatment
- CJPP Programs
- DRC- Day Reporting Centers
- SSAC- Satellite Substance Abuse Center
- RC- Resource Center
- DTC- Drug Treatment Court

Robert Downey Jr. :

Ups and Downs, now an Iron Man

Well known actor Robert Downey, Jr. is an example of how intervention & will power helps to fight a drug addiction. From his numerous arrests and days addicted to illegal drugs, a twelve step program, help from family, meditation, helped him to kick his years-long and intense habit. Stints in prison helped to change his views as well. He has been clean since 2003 and his career has taken off. *

*New York Times 4-20-08

Burger King helped to kick the habit?

Downey himself also thanks Burger King for helping to beat his habit. Jokingly, he attributes it to stopping there with a full load of drugs in his car, and stopped at Burger King. The food was disgusting and felt something bad would happen if he ate it. Tossed his drugs into the ocean and proceeded to change his life. * www.theinsder.com 6-9-08



Amy Winehouse

Amy Winehouse, singer, was recently in the news over her bizarre behavior and drug abuse. On the left is her before drug abuse in January 2004.



Amy in January
2004

On the right is Amy after using illicit drugs: crack cocaine, alcohol, several years later. Not long after this was shot, she agreed to go into treatment in the Caribbean. Amy is currently out of treatment and, as of August 2009, going through divorce proceedings. Also, cleared to travel in the USA due to her probation conditions. Also, talk on a musical based on her life is being floated.



Amy on Jan 18, 2008

Samuel L. Jackson



Famous actor Samuel L. Jackson, star of numerous movies and known for his over-the-top performances, battled a severe cocaine and alcohol addiction in the 1980s. While performing in his breakout role as Gator, the crack-addicted brother, in 1991's "Jungle Fever", the role served as a catalyst to help him break his drug habits.* His star has risen consistently since then and movies he has appeared in have grossed over \$3 billion.

*Source: Biography.com from A&E Television networks.

PARTNERSHIPS

- DOC-Department of Correction
- DCC-Division of Community Corrections
- DACDP – Division of Alcoholism & Chemical Dependency Program
- DART-Drug Alcohol Rehabilitation Treatment

PARTNERSHIPS

- DHHS - Department of Health & Human Services
- TASC-Treatment Alternatives Safer Communities
- AOC - Administrative Office of the Courts
- DTC- Drug Treatment Court

Drug use during treatment should be carefully monitored

- Know that lapses can occur
- Conduct urinalysis
- Provide immediate feedback
- Intensify treatment as needed

Family Court and Probation
officers experience some
of the same people and the
goal remains the same.




We strive to effectively treat people for drugs of abuse for the improvement of families, quality of life, and the reduction of recidivism.



REMEMBER:

Drug screening
is a
supervision tool

The background features several sets of concentric circles in a lighter shade of blue, resembling ripples in water, positioned in the lower right and bottom center areas of the slide.

Thank you for your time today.

For more information , please call or write:

Steven Worthy (919) 716-3189 wls14@doc.state.nc.us

Theresa Schwab (919) 716-3133 stb10@doc.state.nc.us