

DRUG TESTING 101

Methods & Myths



TOPICS OF DISCUSSION

- Sample Media Types and Detection Times
- General Drug Information/New Drug Trends
- Beating a Drug Test: Is it Possible?
 - Adulteration/Substitution
 - Dilution/Masking
- Incidental Exposure/Examining the Excuses
- Q&A

SAMPLE MEDIA / DETECTION

SAMPLE MEDIA

Various sample media types available to implement a drug abuse monitoring program

- Hair, Oral Fluid, and Urine- most common
- Blood and Sweat - uncommon

Each media type has it's advantages/disadvantages

HAIR FOLLICLE

Detection times are: Head hair: 14-90 days prior
Body hair: 30-365 days prior

- Pros
 - Effective baseline test – Unknown drug use history
 - Adulteration difficult
- Cons
 - Not useful for routine monitoring since the drug use cannot be pinpointed
 - Limited test menu
 - Head hair may not be available/ Potential issue with treated hair
 - Expensive
 - A person has to use in a pattern, not a single drug use.



ORAL FLUID

Detection time is 12-36 hours/ 6-8 hours for THC

- Pros
 - Effective field collection
 - Same gender collection not necessary
 - If its done correctly it is difficult to adulterate
- Cons
 - Short detection period
 - Ineffective for THC Detection
 - Not effective for EtG
 - Moderate cost



URINE

Detection time is 24-72 hours

- Pros
 - Good detection period
 - Ability to split the sample and send to another lab
 - Industry standard
 - Long history of legal acceptance
 - Inexpensive
- Cons
 - Requires visually observed collection to avoid adulteration
 - Potential for specimen dilution/adulteration in vivo and in vitro



DETECTION TYPES FOR EACH MEDIA

Media

Approximate Detection Period

Urine

24-72 hours

Oral Fluid

12-36 hours / 6-8 hours THC

Hair

Head hair: 14-90 days prior
Body hair: 30-365 days prior

Blood

8-36 hours

Sweat

1-4 weeks (period patch is worn)

URINE DETECTION TIMES

Stimulants:

Amphetamines, Cocaine, Ecstasy,
Bath Salts 24-72 hrs

Narcotics / Narcotic Analgesics:

Methadone, Opiates, Propoxyphene 24-72 hrs

Sedative Hypnotics

Barbiturates, Benzodiazepines 24-72 hrs / 2-6 wks*

Hallucinogens:

Marijuana 24-72 hrs / 2-6 wks*
PCP, LSD 2-5 days

Depressants:

Alcohol 1-12 hours
Ethyl Glucuronide (EtG) 8-72 hours

*It is always recommended to order a GCMS or a LC-MS confirmation if a client is contesting a positive.

GENERAL DRUG INFORMATION

MARIJUANA

- THC metabolites are fat-soluble, and may be retained in fatty tissue depending upon dosage and recent usage history.
- May take time to produce consistent negative urine samples.
 - Casual Users: 2-5 days
 - Chronic Users: 3-6 Weeks (6 weeks is rare)
- Most chronic users will be clean by 21 days.
 - Levels drop 50% every 3-10 days



Note: Poppy seeds, Ibuprofen, Spice or Synthetic cannabinoids will NOT test positive for THC

AMPHETAMINES

- Methamphetamine
- Amphetamines
 - Adderall, Vyvanse, Dextrostat, Dexedrine
 - Dimethylamine (Pre-workout Supplement)
 - Ephedrine taking in access can cause a positive.

Note: Call the laboratory for assistance with any questions or concerns. Individuals taking Ritalin or asthma inhalers such as Albuterol, ProAir, Advair will not test positive for Amphetamines

***It is always recommended to order a GCMS or a LC-MS confirmation if a client is contesting a positive.**

OPIATES

Looking For:	Test For:
Vicodin/Hydrocodone/Morphine	Opiates Test
Oxycodone/Oxycontin/Percocet	Oxycodone Test (Specialty)
Heroin	Heroin Test (Specialty)
Methadone	Methadone Test (Specialty)
Suboxone/Buprenorphine	Buprenorphine Test (Specialty)

You can test for Opiates, Oxycodone and Heroin at the same time to see what a client has been doing as well.

BENZODIAZEPINES

Prescription	Benzodiazepine	Parent Drug/ Metabolite
Ativan	Lorazepam	Lorazepam
Klonopin	Clonazepam	Clonazepam, 7-Aminoclonazepam
Valium	Diazepam	Diazepam, Nordiazepam, Temazepam, Oxazepam
Xanax	Alprazolam	Alprazolam, Hydroxyalprazolam

ETHYL GLUCURONIDE (EtG)

- Ethyl glu·cu·ro·nide (EtG) is a unique biological metabolite that is formed in the body after the consumption of ethanol, typically from drinking alcoholic beverages.
- Reported to be detectable in urine depending on the dosage for 8-80 hours after ingestion, and 2-36 hours in blood
- Cannot determine the level of intoxication or impairments of a client.
 - Age, gender, race, physical health, diet, metabolism, and time of sample collection are but a few significant variables that can affect EtG detection.

EtG Case Study Examples	TASC CUT OFF LEVEL IS 500 ng
Single Beer (4.5% Alcohol)	Positive for up to 16 hours 
Three glasses of wine (12% Alcohol) consumed over 3 hours	Positive for up to 32 hours 
Six shots of vodka over 3 hours	Peaked at 16 hours and Detectable for up to 54 hours 

NEW DRUG TRENDS

DEXTROMETHORPHAN (DXM)

- Dextro-meth-orphan (DXM)
- Referred to as “ Triple C”, “Robo-tripping” or “Skittling”
- Stored behind the pharmacy
- Cough Suppressant
- Found in more than 120 OTC cold medications
- Detection time is about 2-3 days
- Specialized tests used to pick up drug
- Abuse occurs in all age groups but is more prevalent in youth



BATH SALTS

- Stimulant
- Have one or more manmade synthetic compound chemicals that are related to Cathinone.
- Consumed orally or nasally
- Sold in head shops, convenient stores and online
- Packaging
 - Bath Salts
 - Plant Food – White Snow
 - Insect Repellent – White Lightning
 - Stain Remover – Thunda Cat

“NOT FOR HUMAN
CONSUMPTION”



SPICE

- Chemicals are not similar to THC but react to the receptors the same way
- Most say “Not for Human Consumption” so that they do not need to be regulated by the FDA
- Sold in smoke shops and online
- Assassin Revolution, Bizarro Blueberry, Black Magic Smoke, Cloud 10, Colorado, Darkness, Kite, Purple Diesel, Sunshine Daydream, Sunshine Nightmare, Hammerhead, Diablo

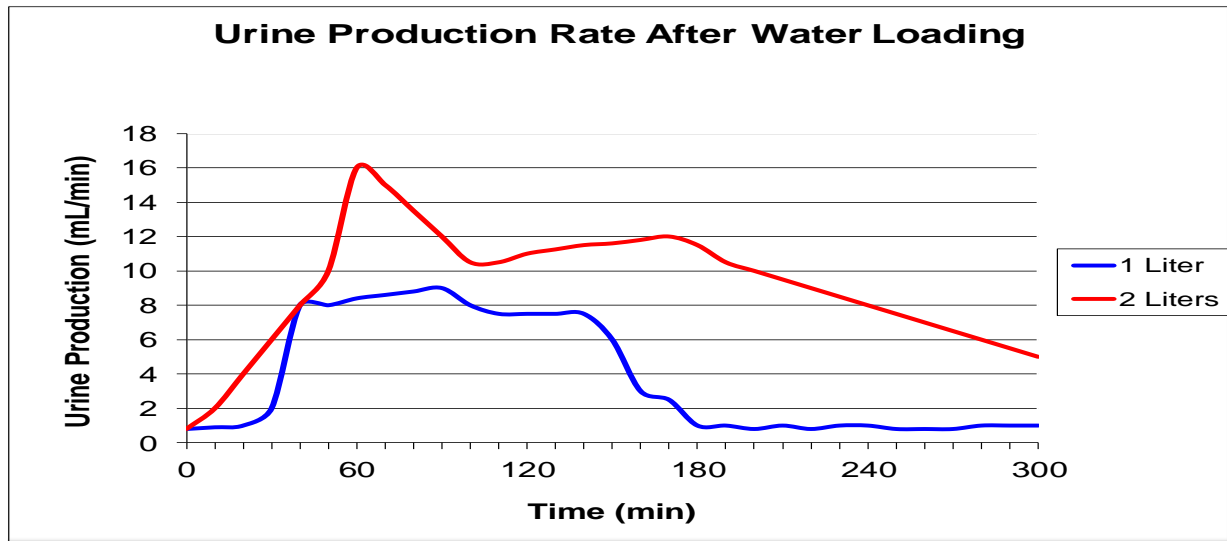


DILUTED/ADULTERANTS

DILUTED

A diluted test means a client has too much liquid in their system (i.e. water, coffee, juice, etc.). It is very hard for most people to be diluted- they have to work at it!

- Had to drink a lot
- May be on certain medications



Look for:

- Is there a history of diluted samples?
- Are there occurrences of missed scheduled or random testing dates?
- Results of recent prior samples “Positive” for drug(s)?
- Is the donor under medical supervision that dictates use of diuretics and/or high fluid intake?

ADULTERATION

- Nationwide product distribution
 - Internet
 - Smoke shops or “head shops”
 - Mail order / magazine advertisements
- Offer next-day delivery with money-back guarantees
- Disseminate misinformation to perpetuate myths about drug testing
- Make exaggerated and unsubstantiated claims as to the efficacy of their products

COMMON METHODS

- Physical Tampering - Additives
- Specimen Substitution
- Devices

THE ADULTERANT INDUSTRY

- Nationwide product distribution
 - Internet, smoke shops or “head shops” and mail order / magazine advertisements
 - Offer next-day delivery with money-back guarantees
 - Will go off of myths to get people to buy their product.



Physical Adulterants	Ingested Compounds
<ul style="list-style-type: none"> • Acids • Surfactants (Soaps) • Fixatives (Glues) • Oxidants 	<ul style="list-style-type: none"> • Vinegar • Pickle Juice • Bleach • Drano • Water Pills • Detox Drinks • Herbal Teas & Supplements



SPECIMEN SUBSTITUTION

- Dehydrated urine
- Non-urine liquids
- Also used in devices



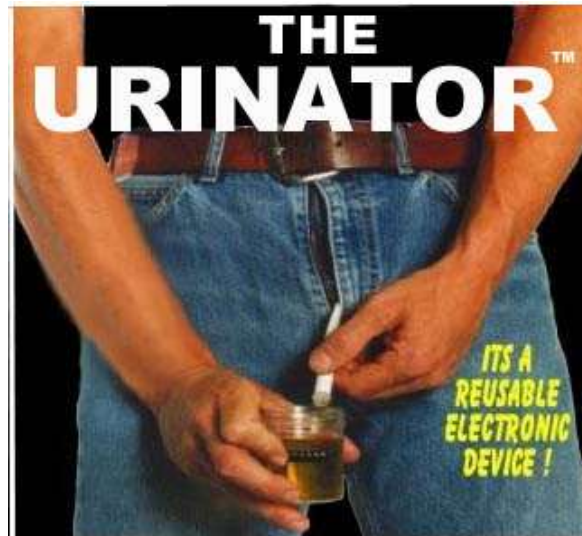
DEVICES

- Concealed beneath clothing
- Utilizes drug-free urine
- Maintains proper urine temperature with heating pads or digital heating packs
- Typically sold to males; may include prosthetic penis
- Typically very expensive / single use only
- TASC has a very specific monitoring system and clients are instructed to use very detailed testing procedures



THE URINATOR - \$149.95

- A digitally controlled, battery operated, heating element with cloth pouch
- Dehydrated urine
- Car adapter



VAGINAL INSERTS



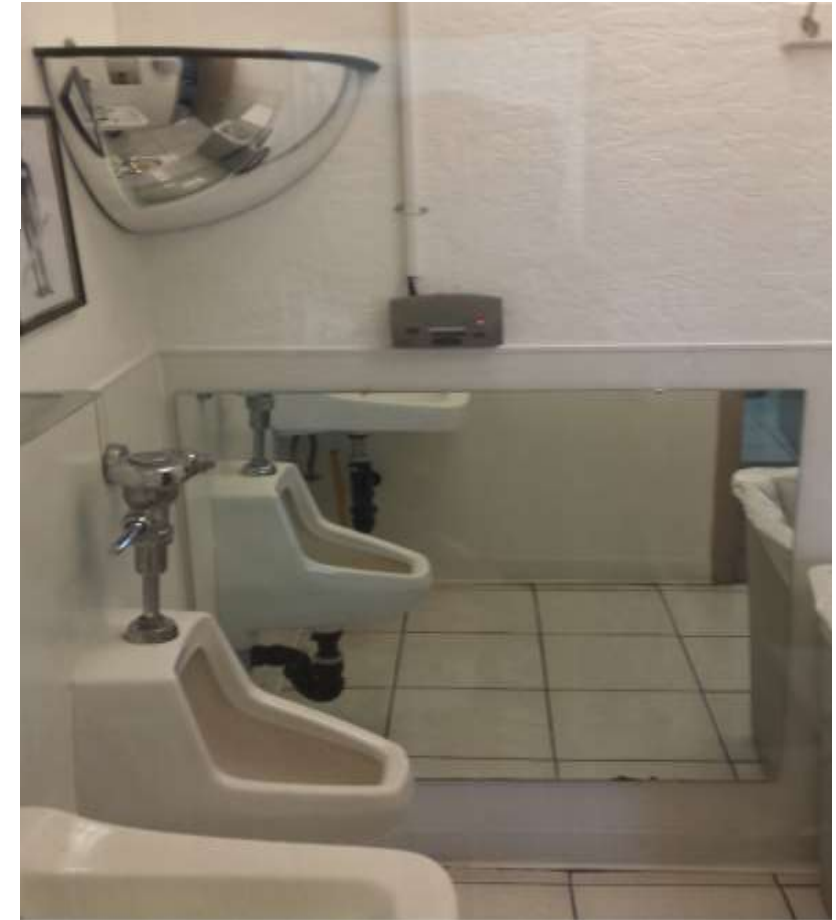
VISUAL MONITORING COLLECTION

Female Restroom



- One way mirror to view collection
- Bluing agent in toilets
- No hot water
- No chemicals in area
- Remove excessive clothing
- No items allowed in restroom

Male Restroom



INCIDENTAL EXPOSURE

TYPES OF EXPOSURE

- Sexual intercourse with a drug user
- Touching a contaminated surface
- Inhaling second-hand smoke
- Consuming products cooked with alcohol
- Hand Sanitizer
- Mouthwashes



INCIDENTAL EXPOSURES

- Hand sanitizer applied every 15 minutes for 8 hours – Negative
- Gargling mouthwash 3 times a day for 5 days – Negative
- Gargling mouthwash 4 times a day for 78 hours – Negative
- Eating beer brats – Negative
- Communion wine – Negative



CUTOFF LEVELS

- Regulated standards observed by SAMHSA, CLIA, CAP
- Set to eliminate positive results due to incidental exposure
- Reports will indicate cutoff levels for screening and confirmation testing

COMPARING RESULTS

- Results from different samples collected the same day may not correlate.
 - Hair vs. Urine
 - Oral Fluid vs. Urine
- Point of Care vs. Lab-based Testing
 - Different Cutoff Levels
 - Higher potential for false positives
 - Subjective
 - Refer to Package Insert

EXAMINING THE EXCUSES

Are they legitimate?

THC

- “I’m overweight so THC stays in my system longer”.
 - Chronic users should test negative after approximately 21-24 days
 - 99% of chronic users will test negative after 6 weeks
- “I use hemp products”.
 - Oils, butters, seeds
 - Contains little to no psychoactive THC
- “I have a prescription for Marinol (dronabinol)”.
 - Synthetic THC
 - Will test positive for marijuana metabolite

AMPHETAMINES

- “I am positive because of my Albuterol inhaler”.
 - This is not an amphetamine
- “I use a Vick’s inhaler”.
 - Contains l-methamphetamine
 - D vs. L isomer test recommended
- “I had a bad cold and took Sudafed”.
 - Pseudoephedrine can test positive on screening test

OPIATES

- “I am positive for opiates because of my methadone”.
 - Synthetic Opioids will not test positive for opiates
 - Methadone
 - Buprenorphine
 - Tramadol
 - Fentanyl
 - Meperidine
- “I tested positive because I ate a poppy seed bagel”.
 - Possible morphine in or on the seeds
 - Problematic at the 300 ng/mL cutoff



THANK YOU

Contact us anytime with questions!!

