

What Your Drug Test Really Means

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Disclosure

There are no relevant financial relationships with commercial interests associated.

Objectives

- Explore and differentiate the different types of drug testing available.
- Discuss the meanings of false positive and negative, adulterants, and substitutions.
- Discuss the uses for expanded panels when screening for drug abuse.



Types of Drug Tests

- Urine Tests
- Saliva Tests
- Hair Tests
- Blood Tests
- Sweat (Patch) Tests
- Point of Collection (rapid)
- Lab Based
- DOT
- Non DOT



What do they test for?

- Federal government guidelines (by SAMHSA-the Substance Abuse and Mental Health Services Administration) require that companies which use commercial class drivers licenses for employees must have a testing system in place. This required testing program must test for 5 specific categories of drugs (referred to as the "SAMHSA 5").
- Because of this federal requirement, most drug testing companies offer a basic drug test that checks for drugs in 5 categories = 5 Panel



5 Panel Drug Testing

1. Cannabinoids (marijuana, hash)
2. Cocaine (cocaine, crack, benzoylecognine)
3. Amphetamines (amphetamines, methamphetamines, speed)
4. Opiates (heroin, opium, codeine, morphine)
5. Phencyclidine (PCP)



Test Sensitivity

The Substance Abuse and Mental Health Services Association (SAMHSA) provides guidelines for what qualifies as a positive drug test. If a test does not give results higher than the guidelines, it does not qualify as a "positive" test. If an immunoassay test gives positive results, a second Gas Chromatography test must also give positive results before a result of "positive" is announced.



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Initial Test Cutoff Concentration

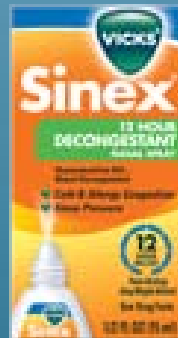
| SUBSTANCE | Initial Test (IMMUNOASSAY) | Confirming Test (GC/MS) |
|--------------|----------------------------|---|
| Cannabis | 50 ng/ml | 15 ng/ml |
| Cocaine | 300 ng/ml | 150 ng/ml |
| Opiates | 2000 ng/ml | 2000 ng/ml (morphine) 2000 ng/ml (codeine) 6 - Acetylmorphine |
| Amphetamines | 1000 ng/ml | 500 ng/ml |
| PCP | 25 ng/ml | 25 ng/ml |



False Positives Results

False-Positive Results in 5 Percent to 10 Percent of Cases

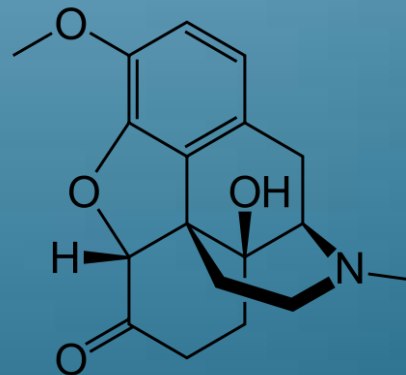
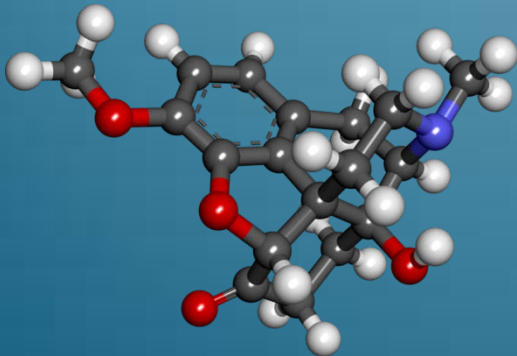
- Cold medications, the antidepressant Wellbutrin and tricyclic antidepressants can trigger false-positive results on tests for amphetamines. Also Vic's Inhalers and Adderall (used for treatment of attention-deficit hyperactivity disorder) can also trigger a false-positive for amphetamines.
- The antidepressant Zoloft and the painkiller Daypro can show up as a benzodiazepine problem.
- The quinolone antibiotic drugs can trigger false positives for opioids.
- The HIV medication Sustiva can show up as marijuana use.



False Negative Results

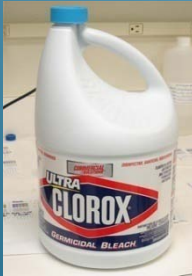
Standard Drug Tests Sometimes Miss Oxycodone

- Another problem is that most standard drug tests have a substantial false-negative rate for oxycodone (OxyContin, Percolone, Roxicodone), an opioid drug that's been associated with high levels of abuse. In some cases, a person could be taking oxycodone, and the routine drug screen might miss it and report as negative. Oxycodone is also found in the medications Percocet, Roxicet and Tylox.
- One study in the review showed that **88 percent of doctors** didn't know that they may need to order a special test to accurately screen for oxycodone.
- Other opioids missed by standard tests include methadone, fentanyl, Ultram, Subutex and Suboxone.



Adulterants/Dilution

- Adulteration of a drug test is loosely defined as manipulating a urine specimen with the intention of altering the drug test results in order to pass the drug test.
- Users of illicit drugs have attempted to pass drug tests by adding foreign substances (adulterants) to their urine after collection.
- The use of adulterants before submitting to a drug test can cause false negative results in drug tests by either interfering with the screening test and/ or destroying the drugs present in the urine.
- Dilution may also be employed in an attempt to produce false negative drug test results. A person may attempt to pass a drug test by drinking excessive amounts of water and other foreign substances.



Substitution

The Whizz Kit



Easy to use....

- The new refillable belt is a "gravity operated" device. It delivers a toxin free urine sample through a rubber tube that is part of a light weight apparatus which wraps around you waist and is worn under your clothing. The urine is easily delivered by releasing the two clips that retain the urine in the bladder bag. The refillable belt comes completely assembled and is very simple to use.



Substitution

Whizzinator

Whizzinator maker pleads guilty.....

October 15, 2008 12:00 am

By Paula Reed Ward / Pittsburgh Post-Gazette

The owners of the company that makes the Whizzinator, a prosthetic penis used to mask illegal drug use, were charged yesterday in federal court with conspiracy to defraud the government and are expected to plead guilty.

Gerald Wills, the president of Puck Technology, based in Signal Hill, Calif., and Robert D. Catalano, the vice president, are charged in a 19-page criminal information of conspiracy for selling two different products that mask illegal substances in a user's urine.





Direct Observation

New DOT Urine Specimen Collection Regulation Requiring Direct Observation Effective August 25, 2008

The Department of Transportation has changed the observed collection procedures under the drug testing regulations. The new direct observation procedures require the observer to check for devices used to dilute or falsify results when an employee is subject to an observed collection.

These new procedures are for those situations for which observed collections are already required. In addition, under prior rules, employees with prior positives or refusals gave the employer the option for testing under direct observation. The new rule makes the return to duty and follow up drug testing by direct observation mandatory.

The following situations are where the testing will be by direct observation:

1. Employees with dilute specimens with creatinine in the 2-5 range.
2. Employees with invalid test results with no valid medical explanation.
3. Employees who tested positive, adulterated, or substituted and their split specimens were not available for testing [splits not collected; missing or destroyed in transit].
4. Employees who submit out-of-temperature range specimens or tampered-with specimens at collection sites.
5. Return-to duty and follow-up drug testing for employees with prior positives or refusals.

Expanded Tests - Substance Abuse Panel/Narcotics

- Barbiturates (Phenobarbital, Secobarbital, Butalbital)
- Benzodiazepines (Alprazolam Metabolites, Clonazepam Metabolites, Flunitrazepam Metabolites, Flurazepam Metabolites, Lorazepam, Midazolam Metabolites, Nordiazepam, Oxazepam, Temazepam, Triazolam Metabolites)
- Fentanyl (Duragesic, Actiq)
- Meperidine (Demerol)
- Methadone
- **Opiates** (expanded panel = Codeine, Hydrocodone, Hydromorphone, Lortab, Morphine, Oxycodone, Oxymorphone, Vicodin)
- Propoxyphene (Darvon compounds)
- Tramadol



Detection Period

| SUBSTANCE | URINE | SALIVA | HAIR | BLOOD | SWEAT |
|-------------------------|------------|-----------|---------------|----------|---------|
| Alcohol | 6-24 hrs | 6-12 hrs | N/A | 12 hrs | Unknown |
| Amphetamines | 1-4 days | 3 days | Up to 90 days | 12 hrs | Unknown |
| Barbiturates | 1-21 days | Unknown | Unknown | Unknown | Unknown |
| Benzodiazepines | 1-42 days | Unknown | Unknown | Unknown | Unknown |
| Cannabis (single use) | 2-3 days | 12-24 hrs | Up to 90 days | 2-3 days | Unknown |
| Cannabis (habitual use) | 15-30 days | 12-24 hrs | Up to 90 days | 2 weeks | Unknown |
| Cocaine | 4-5 days | 1 day | Up to 90 days | Unknown | Unknown |
| Codeine/Morphine | 2-4 days | 12-36 hrs | Up to 90 days | Unknown | Unknown |
| Heroin | 2-4 days | Unknown | Up to 90 days | Unknown | Unknown |
| Methamphetamine | 3-5 days | Unknown | Up to 90 days | 1-3 days | Unknown |
| PCP | 3-7 days | 3 days | Up to 90 days | 1-3 days | Unknown |

True Stories of Drug Collections.....

1. The "Run Away....."
2. The "Cougher"
3. Mr. Velcro
4. Mrs. Ziploc Baggie
5. Mr. Hot Stuff



Questions

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