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## Drug Testing Basics

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### WHAT DO THEY TEST FOR?

The first thing to know about drug testing is what the standard test looks for. What is being tested for varies greatly based on testing company, expense, expectations, federal requirements, etc. Following is a description of what to expect from the standard tests.

#### The SAMHSA-5 #

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. Among other things, this required testing program must test for 5 specific categories of drugs (referred to as the "SAMHSA 5", previously called the "NIDA-5"). Because of this federal requirement, most drug testing companies offer a basic drug test that checks for drugs in these 5 common categories. Click on the substance name for a description of the laboratory method for detecting the substance.

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

#### Expanded Tests

Most drug testing companies also offer an expanded test which includes a few additional drug classes and specific drugs in the testing process. Most do not add all of these in their expanded test, but choose a different combination of 3 or 4 to add :

1. **Barbiturates** (Phenobarbital, Secobarbital, Butalbital)
2. Hydrocodone (Lortab, Vicodin)
3. Methaqualone (Quaaludes)
4. **Benzodiazepines** (Valium, Xanax, Librium, Serax, Rohypnol)
5. Methadone
6. Propoxyphene (Darvon compounds)
7. **Ethanol** (Alcohol)
8. MDMA (Ecstasy)

#### Additional Testables

In addition, there are a few other substances which it is possible but quite unusual to test for. I only found reference to testing for these additional substances at 1 (out of 15) drug testing sites :

1. LSD
2. Tryptamines (Psilocybin, AMT, DMT, DPT, 5-MeO-DiPT)
3. Phenethylamines (Mescaline, MDMA, MDA, MDE, 2C-B, 2C-T-7)
4. Inhalents (Toluene, Xylene, Benzene)

#### TEST TYPES

There are five primary types of drug tests: urine, blood, hair, saliva, and sweat. Most common is the urine test which has the benefit of being inexpensive and less intrusive than the blood test.

##### Urine Tests

- Are the least expensive of the test methods (~\$7-\$50 for home version).
- Are considered an intrusive method of testing.
- Can be done at home (for example by parents) though require lab verification for accurate results.
- Detect use primarily within the past week (longer with regular use).
- Can be affected by abstaining from use for a period of time before the test.
- Are often temperature tested to insure sample integrity.

##### Saliva Tests

- Are a little more expensive than urine testing, but less than hair or blood. (~\$15-\$75).
- Are considered a relatively unintrusive method of drug testing.
- Are becoming more common.
- Are easy to administer but require lab processing to ensure accuracy.
- Detect use primarily within the past few days.
- Can detect more recent use than other testing methods.

- Have no nationally accepted standards or cutoff concentrations for detection, making results greatly dependent on the specific product purchased. This could also make results less-reliable and/or acceptable for legal cases.
- More reliable for detection of Methamphetamine and Opiates, less reliable for THC or Cannabinoids (2004).

## Hair Tests

- Are currently several times more expensive than urine tests (~\$100-\$150).
- Are considered a relatively unintrusive method of drug testing.
- Detect substance use over a longer period (see [detection period](#)).
- Do not usually detect use within the past week.
- Require a sample of hair about the diameter of a pencil and 1.5 inches long. They can not be done with a single hair.
- Test positive a little more than twice as often as a urine test. In a recent study, out of 1823 paired hair and urine samples, 57 urine samples tested positive for drugs of abuse; while 124 hair samples from the same group tested positive.
- Are not significantly affected by brief periods of abstinence from drugs.
- Can sometimes be used to determine when use occurred and if it has been discontinued. Drugs, such as opiates (codeine, morphine, heroin) lay down on the hair shaft very tightly and are shown not to migrate along the shaft, thus, if a long segment of hair is available one can draw some "relative" conclusions about when the use occurred. However cocaine, although very easy to detect, is able to migrate along the shaft; making it very difficult to determine when the drug was used and for how long.
- Claims to be able to reliably differentiate between opiate and poppy seed use.
- We've heard that many hair tests now check for more than the SAMHSA-5, and include at least Cannabis, Ecstasy/MDMA, Cocaine, Opiates, Methamphetamine, Amphetamine, Phencyclidine (PCP), Benzodiazepines, & Barbiturates (2001).

## Blood Tests

- Are the most expensive method of testing.
- Are considered the most intrusive method of testing.
- Are the most accurate method of testing.
- Are the least common method of testing (most likely due to cost).

## Sweat (Patch) Tests

- Are considered a relatively intrusive method of drug testing because they require the wearing of a patch for an extended period of time.

- Are still relatively uncommon.
- Are controversial in terms of accuracy. There is some reason to believe that surface contamination (such as cannabis smoke) can cause a false reading.
- Can detect use which would not trigger other tests. Because of the short detection period for many drugs in urine, single use of many drugs longer than a week prior to using the patch will not cause a positive urine test. Because the skin patches are gathering sweat over an extended period of time, it is possible that any use during that time will produce a positive result.

### 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. The following chart shows the guidelines by substance.

SUBSTANCE	IMMUNOASSAY	GC / MS
Cannabis	50 ng/ml	15 ng/ml
Cocaine	300 ng/ml	150 ng/ml
Opiates	300 ng/ml	300 ng/ml
Amphetamines	1000 ng/ml	500 ng/ml
PCP	25 ng/ml	25 ng/ml

Some companies are getting around these guidelines by reporting the levels found without categorizing them as a "positive" or "negative" test. This seems to be a problem primarily with mail-in home tests rather than corporate testing.

### DETECTION PERIODS

The following chart gives approximate detection periods for each substance by test type. The ranges depend on amount and frequency of use, metabolic rate, body mass, age, overall health, drug tolerance, and urine pH.

SUBSTANCE	BLOOD	SALIVA	SWEAT	URINE	HAIR
	Shortest Detectability ----- Longest Detectability				
<a href="#">Alcohol</a>	12 hrs	6-12 hrs	unknown	6-24 hrs (5 days with EtG)	n/a
<a href="#">Amphetamine</a>	12 hrs	3 days	unknown	1-4 days	up to 90 days
<a href="#">Barbiturates</a>	unknown	unknown	unknown	1-21 days	unknown
<a href="#">Benzodiazepines</a>	unknown	unknown	unknown	1-42 days	unknown

<a href="#"><u>Cannabis</u></a> (single use)	2-3 days	12-24 hrs	unknown	2-3 days	up to 90 days
<a href="#"><u>Cannabis</u></a> (habitual use)	2 weeks	12-24 hrs	unknown	up to 12 wks	up to 90 days
<a href="#"><u>Cocaine</u></a>	unknown	1 day	unknown	4-5 days	up to 90 days
Codeine/Morphine	unknown	12-36 hrs	unknown	2-4 days	up to 90 days
<a href="#"><u>Heroin</u></a>	unknown	unknown	unknown	2-4 days	up to 90 days
<a href="#"><u>Methamphetamine</u></a>	1-3 days	unknown	unknown	3-5 days	up to 90 days
<a href="#"><u>PCP</u></a>	1-3 days	3 days	unknown	3-7 days	up to 90 days