



► Drugs & Crime Data

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Fact Sheet: Drug Testing in the Criminal Justice System

As part of ongoing research the Drugs & Crime Data Center & Clearinghouse prepared this fact sheet on drug testing in the criminal justice system. "Drug testing" in this fact sheet refers to urinalysis, since that is the testing methodology typically used throughout the criminal justice system.

► Who is tested?

Drug testing can take place in all stages of the criminal justice system: arrest, in the pretrial phase, and during incarceration, probation, and parole. Testing does not, however, take place in all stages in all jurisdictions.

► What is the purpose of drug testing?

Drug testing in the criminal justice system can serve several purposes:

- *Inform judges for bail-setting and sentencing.* For example, a positive drug test at the time of arrest may result in a pretrial release condition that incorporates periodic drug testing. A subsequent failed drug test could result in revocation of bail or other more stringent release conditions.
- *Indicate whether specified rules or conditions are being complied with.* If a defendant is being monitored while on pretrial release, probation, parole, work release, or furlough, a drug test can help ensure that he or she is remaining drug-free. The results may be used in revoca-

tion hearings. Drug tests in prisons can also assist in monitoring drug use in correctional facilities and by inmates during temporary absences from the institution.

- *Identify persons in need of treatment.* Drug tests can identify drug users who can be placed in treatment. Drug testing is also used to monitor persons undergoing drug treatment.

► Drug testing technology

There are two primary methods of detecting drugs in the urine: *immunoassays* and *chromatography*. Immunoassays are the most common method for initial screening in the criminal justice system, using antibodies to detect the presence or absence of drugs in the urine. The specimen is compared to a calibrator, which contains a known quantity of the drug being tested. If the sample specimen is higher than or equal to the calibrator, then the test is considered positive. If the specimen is lower than the calibrator, then the test is considered negative.

An *immunoassay* commonly used in the criminal justice system is EMIT™ (enzyme multiplied immunoassay technique) manufactured by Syva Company. EMIT can be conducted in-house and costs under \$5 for each drug tested.³ Other methods used include Abuscreen™ RIA (radio immunoassay) by Roche Diagnostics and TDx™ FPIA (fluorescence polarization immunoassay) by Abbott Laboratories. Toxicologists recommend

that a positive immunoassay be retested and confirmed, preferably by a different technique of equal or greater sensitivity, such as gas chromatography/mass spectrometry.⁴

Chromatography involves separating and identifying the components of a specimen. GC/MS (gas chromatography/mass spectrometry) is considered to be "the most legally defensible" method of urinalysis.⁵ GC/MS testing, however, is more expensive than immunoassay testing (typically between \$25 and \$100 a test),⁶ more time consuming, and more complex (needs to be done by a laboratory). Other chromatography methods include TLC (thin-layer chromatography), GLC (gas-liquid chromatography), and HPLC (high-performance liquid chromatography).

Drug testing methods other than urinalysis include blood, hair, and saliva analysis, but are not used extensively in the criminal justice system at this time either because of high costs, because the technology is not yet fully developed, and/or are more intrusive.

► What can positive test results indicate?

A positive drug test can show the presence or absence of specific drugs in urine at the detectable level of the test. However, it cannot determine the dosage, when the drug was administered, how it was administered, or the degree of impairment.

A negative result does not guarantee that the individual did not consume the drugs being tested for. The level of the drug may not have been high enough to exceed the test's cutoff level.

Most drugs can be detected in urine for up to 3 days after being taken; some up to 2 weeks (see table).

It is possible for a legal substance to interact with a substance in a urine specimen resulting in a "false positive," a positive drug test even though an illicit drug was not in fact used. Such reactions have reportedly, although infrequently, occurred from antihistamines, ibuprofen, and other anti-inflammatory drugs, and poppyseeds. Proper confirmation procedures should guard against false positive results.

Notes

¹The White House, *National drug control strategy*, February 1991, p. 34.

²The White House, *National drug control strategy*, February 1992, p. 127.

³Eric Wish, "Drug testing," *Crime file*, 1990, National Institute of Justice, p. 2.

⁴Richard L. Hawks, "Analytical methodology," in *Urine testing for drugs of abuse*, National Institute on Drug Abuse Research Monograph 73, 1986, p. 38.

⁵Michael Peat, "Analytical and technical aspects of testing for drug abuse: Confirmatory procedures," *Clinical Chemistry*, 34(3), p. 471.

⁶Bureau of Justice Assistance, U.S. Department of Justice, *Estimating the costs of drug testing for a pretrial services program*, Monograph, June 1989, p. 9.

Other sources

American Medical Association, Council on Scientific Affairs. 1987. "Scientific issues in drug testing." *Journal of the American Medical Association* 257(22):3110-3114.

Wish, Eric. 1990. "Drug testing." *Crime file*. Washington, D.C.: U.S. Department of Justice, National Institute of Justice.

Wish, Eric D. and Bernard A. Gropper. 1990. "Drug testing by the criminal justice system: Methods, research, and applications." In *Crime and justice*, Vol. 13, ed. James Q. Wilson and Michael Tonry, 321-390. Chicago, Ill.: University of Chicago.

Duration of detectability of drugs in urine

Drug	Retention time during which detectable
Amphetamines and methamphetamines	48 hrs.
Barbiturates	short-acting (e.g., secobarbital), 24 hrs. long-acting (e.g., phenobarbital), 7 or more days
Benzodiazepines	3 days if therapeutic dose ingested
Cocaine metabolites	2-3 days
Methadone	approximately 3 days
Opiates	2 days
Propoxyphene (Darvon)	6-48 hrs.
Cannabinoids	single use, 3 days moderate smoker (4 times/week), 5 days heavy smoker (daily), 10 days chronic smoker, 21-27 days
Methaqualone	7 or more days
Phencyclidine (PCP)	approximately 8 days

Note: Retention times may vary depending on variables including drug metabolism and half-life, patient's physical condition, fluid intake, and method and frequency of ingestion.

Source: *Journal of the American Medical Association*, 1987, "Scientific issues in drug testing," 257(22), p. 3112.

This fact sheet was written by Anita Timrots, Senior Research Analyst at the Drugs & Crime Data Center & Clearinghouse. The Bureau of Justice Statistics manages this data center and clearinghouse, with partial funding by the Bureau of Justice Assistance, to support drug control policy research. For additional sources on drug testing, see *Drug Testing: Selected Bibliography* and *Drug Testing in the Workplace: Selected Bibliography*, which are available from the Drugs & Crime Data Center & Clearinghouse. For further information concerning the content of this fact sheet or other drugs and crime issues, call

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