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Drug Tests: Issues Raised in the Defense of a “Positive” Result

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Abstract

The practitioner confronted for the first time with the task of representing a client who has been accused of using a controlled substance where the only evidence of the alleged use is scientific testing of the client's urine has a somewhat challenging task ahead.

KEYWORDS: issues, drug, tests

Drug Tests: Issues Raised in the Defense of a "Positive" Result

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Introduction

The practitioner confronted for the first time with the task of representing a client who has been accused of using a controlled substance where the only evidence of the alleged use is scientific testing of the client's urine has a somewhat challenging task ahead. The issues most commonly raised in urinalysis cases range from those more familiar legal issues confronted regularly in the defense of a criminal case (such as the law of search and seizure) to the more unfamiliar issues relating to novel, scientific testing techniques of human urine to search for traces or minute amounts of controlled substances. This article is intended to assist the practitioner in becoming familiar with some of the issues raised in the defense of positive drug test cases through urinalysis testing. Certain assumptions are made in identifying the predominate issues. The first of those assumptions is that in the jurisdiction where the case is being heard, there is a statute or regulation prohibiting the "use" of the controlled substance in question. Of course, many jurisdictions do not have such a statute. The second assumption made is that the scientific drug test is the only evidence the state, federal or private "accuser" has to substantiate the claim that the client has used a controlled substance. For obvious reasons if there is independent evidence of drug use such as a witness, an admission, paraphernalia, or the controlled substances themselves, the scientific test becomes only corroborative in nature rather than dispositive, thus making a legal challenge to the evidence of the positive drug test more difficult.

A checklist of issues raised in the defense of a positive urinalysis case is lengthy and could exceed some 80 to 90 items, any one of which could invalidate the scientific conclusion that the urine tested positive

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for a particular controlled substance, for a particular individual. Legal practitioners may want to be wary for any one or more of the following major points: (1) urine specimens taken in a constitutionally prohibited manner, (2) test results derived from nonspecific drug tests, (3) test results without the requisite supporting chain of custody, (4) testing techniques not accepted in the American scientific community, (5) test results without supporting quality control data, (6) improperly interpreted test results, (7) test results with concentration levels consistent with "passive inhalation" and "passive ingestion" of the controlled substance, and (8) false-positive tests. The legal practitioner may also want to carefully consider the additional issues concerning the desirability of retesting, tissue typing and blood grouping tests which may or may not assist in the representation of the client.

How Bad Can a Drug Testing Laboratory Get?

On the 24th of October, 1983, because of the legal challenges to the accuracy of the Army and Air Force Drug Testing Program, the Deputy Surgeon General of the Army appointed a blue ribbon panel to review the massive urinalysis drug testing program for the Army and Air Force.¹ The "Einsel Commission," as it was named, was directed "to assess if their results are legally sufficient for use as evidence . . . in disciplinary or characterization of discharge actions."² At that time, individual Army and Air Force Drug Testing Laboratories were processing between 18,000 and 31,000 urine specimens per month.³ These laboratories were relying upon the Roche Abuscreen radio immunoassay (RIA) for the initial detection of the presence of target drugs⁴ and gas chromatography (GC) as the main method of confirmation of the RIA screening test results.⁵ Although the "Einsel Commission" concluded that there was no evidence to suggest that there had been any "false-positive THC results" reported by any of the laboratories, this investigation did conclude that: "The quality of the official records, and the poor quality control records will make it difficult, and, in many cases, impossible to provide scientifically and legally supporta-

1. Report by a Panel of Army and Civilian Experts in Toxicology and Drug Testing, Legal Issues for the Surgeon General of the U.S. Army, (Dec. 12, 1983) app. A.

2. *Id.* at 1.

3. *Id.* at 21, 23, 25.

4. *Id.* at 3-4

5. *Id.* at 6.

ble documentation."⁶

A closer examination of the results of this investigation is shocking. It concluded that these results reported by one drug testing laboratory prior to November 15, 1983 contained a 90% error rate.⁷ At the Brooks Air Force Base Drug Testing Laboratory, which at that time was testing 22,200 specimens per month,⁸ an error rate as high as 60% was found.⁹ At another drug testing laboratory, which was then testing 31,000 urine specimens per month for five different drugs,¹⁰ prior to April of 1983, only 25% of the positive test results were scientifically and legally supportable.¹¹

The investigation into the U.S. Army's drug testing laboratory at Fort Meade, Maryland concluded that:

[A]ccess to the COC [chain of custody] room was allowed without need-to-access or proper documentation. There was a severe deficiency in the ability to forensically document COC In general the staff attitude towards security and COC was inadequate. The GC [gas chromatography] confirmation for THC program . . . was ineffective [L]aboratory technicians confirmed that they did not know how to properly use GC and . . . the civilian supervisor had been routinely signing reports which had no, or inadequate standards Quality control was sporadic and unplanned The GC program did not provide valid scientifically and legally supportable data.¹²

Legal challenges to the Army and Air Force Drug Testing Program and the results of the Einsel Commission investigation eventually resulted in a massive effort by the military to review disciplinary actions taken on the basis of flawed drug test results. Fifty-one percent of all Army samples showing drug use (or 52,000 specimens) were mishandled by the four drug testing laboratories used by the Department of the Army between April 1982 and November 1983.¹³

6. *Id.* at 20.

7. *Id.*

8. *Id.* at 23.

9. *Id.* at 20.

10. *Id.* at 25.

11. *Id.* at 20.

12. *Id.* at 21-22.

13. *60,000 to 70,000 May Appeal Drug Test Sanctions*, ARMY TIMES, July 23, 1984.

Constitutional Issues

Privacy can be defined as "control over who can sense us."¹⁴ It is the point of the privilege against self-incrimination and the associated doctrines denying officials the power to compel other kinds of information without some explicit warrant that a man cannot be forced to make public information about himself.¹⁵

Modern acoustics, optics, medical and electronics have explored most of our normal assumptions as to the circumstances under which our speech, beliefs, and behavior are safe from disclosure, and these developments seem to have out flanked the concept of property and physical intrusion, and presumed consent-concepts which have been relied on by the law to maintain the balance between the private personality and the public need. The miniaturized microphone and tape recorder, the one-way mirror, the sophisticated personality test, the computer with its enormous capacity for the storage and retrieval of information about individuals and groups, the behavior controlling drugs, the miniature camera, the polygraph, the directional microphone . . . hypnosis, infra-red photography . . . are capable of use in ways that can frustrate an individual's freedom to choose . . . what shall be disclosed or withheld about himself¹⁶

The fourth amendment privilege affords the individual privacy against certain types of government intrusion. Before the provisions of the fourth amendment are triggered, the individual must show that he had a reasonable expectation of privacy in the area subject to the government's intrusion.¹⁷ To determine whether a reasonable expectation of privacy exists, an individual's subjective expectation of privacy is balanced against the nature and quality of the intrusion on individual rights. Two potential levels of fourth amendment violations are created by the collection of physical evidence.¹⁸ The first occurs when the individual is seized. A police-citizen encounter which restricts the movement of the citizen against his will is a detention within the meaning of

14. Parker, *A Definition of Privacy*, 27 *RUTGERS L. REV.* 275, 280 (1974).

15. Fried, *Privacy*, 77 *YALE L.J.* 475, 488 (1968).

16. Reubhausen and Brimm, *Privacy and Behavioral Research*, 65 *COLUM. L. REV.* 1184, 1190 (1965).

17. *Katz v. United States*, 389 U.S. 347 (1967).

18. *Schmerber v. California*, 384 U.S. 757 (1966).

the fourth amendment.¹⁹ The second seizure occurs when physical evidence is collected from that individual. An initial seizure of the person is lawful if it occurs pursuant to lawful arrest,²⁰ or a grand jury order to testify,²¹ or upon a showing of probable cause.²² Thus, it could be argued in cases in which the individual has been directed by an employer or by an agency of the federal or state government to provide physical evidence in the form of human urine, that the preceding "seizure" of the individual was unlawful in the absence of probable cause.

The next level of constitutional issue concerns the actual seizure of the urine from the person. A threshold question in examining the constitutionality of collecting urine samples is whether the fourth amendment applies to this procedure and the answer is dependent upon the expectation of privacy, if any, a citizen has in his body fluids.

In addressing this issue, one federal court has already provided that:

Urine, unlike blood, is routinely discharged from the body, so no governmental intrusion into the body is required to seize urine. However, urine is discharged and disposed of under circumstances where the person certainly has a reasonable and legitimate expectation of privacy. One does not reasonably expect to discharge urine under circumstances making it available to others to collect and analyze in order to discover the personal physiological secrets it holds, except as part of a medical examination. . . . One clearly has a reasonable and legitimate expectation of privacy in such personal information contained in his body fluids.²³

Governmental taking of a urine specimen is a seizure within the meaning of the fourth amendment.²⁴ In those cases where urine testing has been upheld, some particularized cause or underlying rationale for the urine test is a prerequisite and without this, constitutionally prohibited.²⁵

19. *Terry v. Ohio*, 392 U.S. 1 (1968).

20. *Schmerber*, 384 U.S. at 757.

21. *United States v. Dionisio*, 410 U.S. 1 (1973).

22. *Cupp v. Murphy*, 412 U.S. 291 (1973).

23. *McDonnell v. Hunter*, 612 F. Supp. 1122, 1127 (S.D. Iowa 1985), *modified*, 809 F.2d 1302 (8th Cir. 1987).

24. *Allen v. City of Marietta*, 601 F. Supp. 483, 489 (N.D. Ga. 1985).

25. *Murry v. Haldeman*, 16 M.J. 74, 81 (C.M.A. 1983); *Amalgamated Transit Union v. Suscy*, 538 F.2d 1264, 1267 (7th Cir. 1976).

The Admissibility Issue

In *Frye v. United States*,²⁶ the defense offered evidence based on a forerunner of the polygraph, the systolic blood pressure test. The trial judge excluded the evidence and the appellate court affirmed the trial judge's ruling, declaring:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.²⁷

In *Frye* the appellate court found that there was insufficient proof of the general acceptance of the systolic blood pressure test.²⁸ For that reason the trial judge properly ruled the evidence to be inadmissible.²⁹ The *Frye* standard requires that the scientific technique being considered for admission as evidence by the trial court be sufficiently established "in the particular field in which it belongs."³⁰

The *Frye* standard has been subjected to criticism and there has been substantial movement away from the *Frye* standard within the past few years.³¹

Whether radio immunoassay screen tests, gas chromatography or gas chromatography/mass spectography tests are admissible in a legal proceeding will largely depend on how the *Frye* standard is interpreted in a given jurisdiction. It is, however, important to be familiar with the major differences between the various test procedures utilized in urine testing. Additionally, the proponent of the scientific evidence should be required to demonstrate that the scientific technique, or that the scientific test in question, is generally accepted as a fact finding tool. Courts usually distinguish between the general acceptance of scientific tech-

26. 293 F.2d 1013 (D.C. Cir. 1923).

27. *Id.* at 1014.

28. *Id.*

29. *But see* Gianelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later*, 80 COLUM. L. REV. 1197 (1980).

30. *Frye*, 293 F.2d at 1014.

31. *Coppolino v. State*, 223 So. 2d 68 (Fla. 2d Dist. Ct. App. 1968), *appeal dismissed*, 234 So. 2d 120 (Fla. 1969), *cert. denied*, 399 U.S. 927 (1970).

niques for clinical and investigative purposes.³² If the law of the jurisdiction adheres to the *Frye* standard and a requirement that the scientific technique be accepted as an identification rather than a screening procedure, it is unlikely that radio immunoassay testing (RIA), enzyme multiplied immunoassays (EMIT) or gas chromatography tests on urine would be admissible. Radio immunoassay is so nonspecific that there is a scientific need to confirm all positive RIA results by some other procedure to adequately identify a drug.³³ Retention times in gas chromatography tests are not proof of identification unless they are supported by other evidence.³⁴ Gas liquid chromatography (GLC) should not be relied on for identification.³⁵ Gas chromatographic (GC) methods have been used to confirm the presence of the metabolites of a controlled substance in urine but they are not generally accepted by the scientific community as sufficiently specific for positive identifications.³⁶ Roche Diagnostics, the manufacturer of Roche Abuscreen confirms that a positive radio immunoassay for cannabinoids should be confirmed by another generally accepted scientific method.³⁷ The United States Department of Health and Human Services conducted a field test survey of 64 laboratories using the SYVA system for urine screening for cannabinoids and determined that such testing had an incidence of four percent false-positive rate. The manufacturer, SYVA, recommends that any positive test result should be confirmed by an alternative method.³⁸ The immunoassay tests are extremely valuable and impressive tools in some settings but have not performed so well in mass screening settings.³⁹ Adversarial or punitive action against individuals should not be based solely on urine specimens which are positive for

32. *People v. Shirley*, 31 Cal. 3d 18, 641 P.2d 775, 181 Cal. Rptr. 243 (1982); *People v. Gonzales*, 415 Mich. 615, 329 N.W.2d 743 (1982).

33. Lorenzo, *Radio Immunoassay (RIA)*, in *METHODOLOGY FOR ANALYTICAL TOXICOLOGY* 404 (I. Sunshine ed. 1975).

34. Stein, Laessing, & Indiksons, *An Evaluation of Drug Testing Procedures by Forensic Laboratories and the Qualifications of Their Analysis*, 1973 WIS. L. REV. 727, 752.

35. *Id.* at 753.

36. McBay, *Cannabinoid Testing: Forensic and Analytical Aspects*, 23 LABORATORY MGMT. 26, 38 (1985).

37. ROCHE DIAGNOSTICS MANUFACTURER'S PAMPHLET, ABUSCREEN RADIO IMMUNOASSAY FOR CANNABINOIDS (1983).

38. *Urine Testing for Detection of Marijuana: An Advisory*, 32 MORBIDITY AND MORTALITY WEEKLY REP. 469 (1983).

39. Morgan, *Problems of Mass Urine Screening for Misused Drugs*, 16 JOURNAL OF PSYCHOACTIVE DRUGS 305, 313 (1986).

drugs by a presumptive screening method such as the EMIT or RIA methods. Confirmation of the presumptive positive by a well-documented method such as gas chromatography/mass spectrometry is mandatory in such instances.⁴⁰

There thus seems to be a consensus in the forensic science community that immunoassays may be excellent for screening specimens but they are inadequate for identification of specific drugs when the results are to be used in adversarial proceedings or for instituting sanctions.⁴¹

Confirmation of these immunoassays by gas chromatography (GC), high performance liquid chromatography (HPLC), or thin layer chromatography (TLC) may add weight to the positive immunoassays but there is no agreement among forensic toxicologists that any one of these methods are to be considered adequate enough for confirmation.⁴² Only where the scientific tests at least include a properly performed and properly interpreted gas chromatographic-mass spectrometric method of analysis is adequate identification provided and arguably only then admissible in an adversarial proceeding.⁴³

Chain of Custody Issues

One of the main hazards of high volume urine testing has to do with the problem of the integrity, safe-keeping and control of the urine specimen. Gaps in the continuity of the possession of the urine specimen generally cannot be filled in by any presumption of the performance of official duty or correctness.⁴⁴ Problems generally arise not only in insuring that the client's urine specimen was properly identified from the very moment that the urine passes into the urine specimen collection bottle, but all the way through and including delivery of the urine specimen bottle to the drug testing laboratory. In urinalysis cases the chain of custody problem is particularly unique since not only are the drug testing laboratories generally at some distance from where the actual urine specimen was collected, but the chain of custody issue is complicated further by the fact that a single urine specimen will fre-

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40. Schwartz & Hawks, *Laboratory Detection of Marijuana Use*, 254 J. A.M.A. 788, 791 (1985).
41. McBay, Dubowski & Finkle, *Urine Testing For Marijuana Use*, 249 J. A.M.A. 881 (1983).
42. McBay, *Cannabinoid Testing: Forensic and Analytical Aspects*, 23 LABORATORY MGMT. 36-43 (1985).
43. McBay, *Marijuana Testing and Litigation*, 30 J. FORENSIC SCI. 989 (1985).
44. 29 AM. JUR. 2D *Evidence* §§ 775, 776.

quently be subjected to multiple tests. The only guarantee that all gaps in the chain of custody are identified is to conduct a day-by-day examination of the chain of custody documents including chain of custody at the work site, from the work site to the drug testing laboratory and at each step of the drug testing laboratory's testing procedures including the aliquoting procedures, presumptive screening tests and confirmatory testing. Registered mail numbers should be verified, storage compartments should be properly identified and every individual handling the specimen should appear in the chain of custody in proper sequence. With some drug testing laboratories conducting very high volume testing, it is even wise to attempt to validate signatures in the chain of custody at the drug testing laboratory to insure that they are not forgeries, since that problem seems to arise frequently.

The False-Positive Issue

It is quite clear that false-positive test results for controlled substances in human urine have occurred and have been documented. The issue of false-positives must be further refined by evaluating the problem of false-positives as it exists with presumptive screen tests such as the RIA and EMIT and also the question of false-positives after testing by gas chromatography mass spectrometry. In any screening program by radio immunoassay directed at probationers, individuals undergoing pre-employment or pre-promotion examinations or job fitness evaluations, the reporting of a drug positive urine takes on great importance to the individual. The occurrence of a false-positive is much more important than a false-negative to the individual. A false-positive can be defined as an unconfirmed positive when a reasonable attempt has been made to confirm the positive test result by using an analytical test different and at least as sensitive as the testing method reporting the positive in the first instance.⁴⁵ A 9.7% false-positive rate has been attributed to EMIT positive tests for barbiturates, 8.7% false-positive rate for morphine, 2.5% false-positive rate for methodone, 5.6% false-positive rate for opiats, 12.5% false-positive rate for amphetamines, and a 10% false-positive rate for cocaine.⁴⁶

False-positive test results have also occurred even where the screen test has been confirmed by the scientifically favored confirmatory test,

45. Morgan, *Problems of Mass Urine Screening for Misused Drugs*, J. OF PSYCHOACTIVE DRUGS, Oct.-Dec. 1984, at 309.

46. *Id.* at 312.

gas chromatography/mass spectrometry. Recent testimony by representatives of a government drug testing laboratory at military administrative discharge proceedings indicate that at least one laboratory experienced five false-positives in the 1983-1984 time frame and has been required by the terms of its amended government contract to provide "a thorough and complete explanation of the five false-positives occurring during the early stages of the . . . contract with the United States Navy."⁴⁷

Outside of the question of unconfirmed positive test results there remains the issue of false-positive test results caused by improperly interpreted drug test information. Legal practitioners should consult with toxicologists in reviewing all drug test data but as a minimum should determine whether the concentration of the controlled substance reported by the screening test is within the sensitivity level of the screening test itself, whether there are major discrepancies between the concentration levels reported by the screening test and the confirmatory test, whether there are any interfering substances in the chromatograms attributed to the client's specimen, whether the internal quality controls run by the drug testing laboratory have been validated, whether the mass ratio evaluations by GCMS fall within accepted levels, whether mass amount ratio evaluations fall within acceptable limits, whether there is a problem of "carry over" between the subject's specimen and previously tested specimens and whether the retention times of characteristic ion peaks in the GCMS testing fall within scientifically acceptable ranges.

There has also been some suggestion that racial bias in the EMIT, RIA and GCMS are the result of melanin, the bodily substance responsible for skin tone. The studies of at least one scientist have concluded that positive results for blacks in EMIT, RIA, and GCMS tests can be the result of melanin interference.⁴⁸

The Passive Inhalation and Passive Ingestion Issue

In an affidavit filed in United States District Court for the Eastern District of North Carolina in March 1983, Dr. Arthur McBay, then Chief Toxicologist for the State of North Carolina provided that:

47. Government Contract DADA 15-85-D-0025 with Amendment Number P00004 (July 16, 1985).

48. See Affidavit of Dr. James Woodford (April 14, 1986).

It is my medical opinion that even given the use of the RIA and the GLC that individuals who have never used marijuana can come up positive. Any test other than the gas chromatograph-mass spectrometer is only a presumptive test and can result in inaccuracies. Furthermore, not only are "false-positives" possible with this present testing procedure but it is entirely possible that involuntary exposure to marijuana through "passive inhalation" can result in positive findings as a result of the radio immunoassay and gas liquid chromatography testing procedures which the Department of Defense is utilizing at the present time.⁴⁹

It is clear based upon scientific studies conducted that passive inhalation of marijuana can result in the urinary excretion of detectable amounts of cannabinoid material producing positive results by the enzyme multiplied immunoassay technique (EMIT).⁵⁰ In a study reported in the *American Journal of Psychiatry* in 1978, a control who did not smoke marijuana was placed in a room with marijuana smoke. The control's urine was tested each week for 8 weeks resulting in readings of up to 260 ng/ml, levels significantly higher than the cut-off concentration levels being used by most laboratories.⁵¹ Obviously such factors as environment, duration of marijuana smoke exposure, time lapse between exposure and urine excretion, and concentration levels of the marijuana metabolized must be examined carefully before the issue of passive inhalation should be raised.

Passive ingestion, or the involuntary or unknowing consumption of a controlled substance such as marijuana or cocaine in food and drink, is an issue which also bears consideration. This is true in those particular cases where the individual suspects contamination of his food or drink by third parties. Toxicologists for both government and private institutions have testified in adversarial proceedings that concentration levels of 4000 to 5000 ng/ml of the cocaine metabolite is consistent with unknowing consumption of cocaine placed in "Christmas punch." And, the same testimony has been made in cases with concentration levels less than 140 ng/ml where marijuana has been cooked into food. In scientific studies of oral ingestion of cannabis resin, tested subjects

49. See Affidavit of Dr. Arthur John McBay, File No. 83-39-CIV 3 (E.D.N.C. Mar. 28, 1983).

50. Perez-Reyes, Guisseppi, and Davis, *Passive Inhalation of Marijuana Smoke and Urinary Excretion of Cannabinoids*, 29 J. A.M.A. 475 (1983).

51. Zeidenberg, *Marijuana Intoxication by Passive Inhalation: Documentation by Detection of Urinary Metabolites*, 136 AM. J. PSYCHIATRY 76 (1977).

demonstrated physiological effects attributable to cannabis intoxication. In these studies it was determined that a small oral dose of cannabis (5 mg) resulted in relatively high urine cannabinoid levels (up to 210 ng/ml).⁵²

Summary

It has been the experience of this practitioner that in representing clients accused of using controlled substances, an analytical approach can be helpful. First, was the urine specimen taken in a constitutionally permissible manner? What form of custody was maintained over the specimen to guarantee that no contamination or tampering took place? What kind of scientific testing was used? (Screening tests like RIA and EMIT alone should not be admissible.) Was a confirmatory test used and what kind? Gas chromatography is not specific and has been successfully challenged. Gas chromatography — mass spectrometry is scientifically acceptable if properly conducted. Were the concentration levels by screen test and/or confirmatory test high enough to rule out passive-inhalation or involuntary ingestion of the drug? Were the test results properly interpreted? And, what does the quality control data on the drug testing laboratory reveal about the capability of the lab to report accurate test results? The assistance of a toxicologist familiar with issues relating to the detection of controlled substances in urine is indispensable.

52. Law, *Forensic Aspects of the Metabolism and Excretion of Cannabinoids Following Oral Ingestion of Cannabis Resin*, 36 J. OF PHARM. PHARMACOL., 291, 293 (1983).