

An abstract graphic featuring teal wireframe lines that form a series of overlapping, flowing loops. Scattered throughout the background are small, light-colored numbers (0-9).

11. POST SENTENCING SUPERVISION

Sections 11.1 - 11.11

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11.1 INTRODUCTION

In the last 50 years, courts in the United States have increasingly used emerging technology to assist in supervising those who have been sentenced to probation.¹ These technologies include new forms of alcohol and other drug testing, computer information systems, remote reporting, and global positioning systems. Recent studies have found that these scientific and technical approaches can reduce recidivism and reduce supervision costs.²

There is, however, persuasive evidence that many judges are employing these tools without understanding precisely how they work.³ In order for judges to make effective use of these new tools they must understand these technologies to produce results that are scientifically valid and forensically defensible. This section will highlight these tools and discuss the strengths and weaknesses of their use.



11.2 ELECTRONIC TRACKING DEVICES

There are two major types of electronic tracking devices: Radio Frequency Monitoring (RFM)⁴ and Global Positioning Satellite (GPS).⁵

RFM devices are primarily used in home confinement and for curfew enforcement.⁶ A tracking bracelet is attached to an individual and a base receiver is in their home.⁷ Many, RFM receivers require a landline telephone in order to contact a base computer.⁸

The receiver then locates the bracelet and a distance parameter of about 100 feet is set.⁹ If the individual moves beyond the parameters, within the set time limitations, an alert will be sent to a computer in the supervising company or agency.¹⁰ These receivers also use technology that prevents an offender from moving or disabling them.¹¹

There are pluses and minuses for RFM and GPS.

RFMs are equipped with a battery back-up systems that can maintain the unit's operation if electrical service is interrupted allowing them to store data during a power outage that can be retrieved at a later time.¹²

GPS, the second type of tracking system, begins with the use of 24 satellites currently circling the planet.¹³ These satellites orbit at an altitude of approximately twelve thousand miles so that they circle the earth twice each day.¹⁴ They are spaced in six equal orbital groupings, ensuring at least four satellites are always over every part of the globe.¹⁵

GPS can track an individual's movements by triangulating a bracelet transmitter signal to three of these satellites, while the fourth measures the time between the signals of the other three.¹⁶ The measurement that is provided by the four satellites can place an individual's position, speed, time and location within 72 feet.¹⁷

The GPS bracelet transmitter is usually worn on an individual's ankle and should have a built-in, tamper-resistant component to prevent interfering with or the removal of the transmitter.¹⁸ The rechargeable batteries inside the unit should last a minimum of a year before needing replacement. The charging unit for the

transmitter is placed in the offender's home and works as a link to update the software for the bracelet.¹⁹

Like an RFM, GPS can be used to enforce a home confinement order where a defendant is ordered confined to their residence as opposed to being incarcerated.²⁰ GPS home confinement is created by a zone that excludes everything more than 150 feet from the recharging station.²¹ An exclusion zone is a geographic area or set

There are an unlimited number of inclusive or exclusive "zones" that may be created for the defendant.

of areas where the offender is not permitted to go.²²

An inclusion zone is a geographic area or set of areas where an offender is allowed to be.²³ The use of these zones, however, is not limited to home confinement.²⁴

Depending upon the type of crime the individual has committed, an exclusion zone may include a spouse or former partner's home or place of employment in the case of domestic assault.²⁵ It may also be used to exclude parks, schools or places that sell alcoholic beverages depending upon the crime for which the individual was convicted and which type of supervision is necessary.²⁶ An inclusion zone may include the offender's office, work or treatment location.²⁷ In designing an order it is important to know that there is no limit to the number of zones that can be created.²⁸

The zones are developed with mapping software that is quite simple to use.²⁹ A probation officer or other member of the court staff can enter the address, city, or state into the main computer³⁰ and the GPS receiver records the zone's parameter.³¹ The positioning system also has the technology to provide the exact location of the probationer in the event the staff decides to dispatch police in an emergency.³²

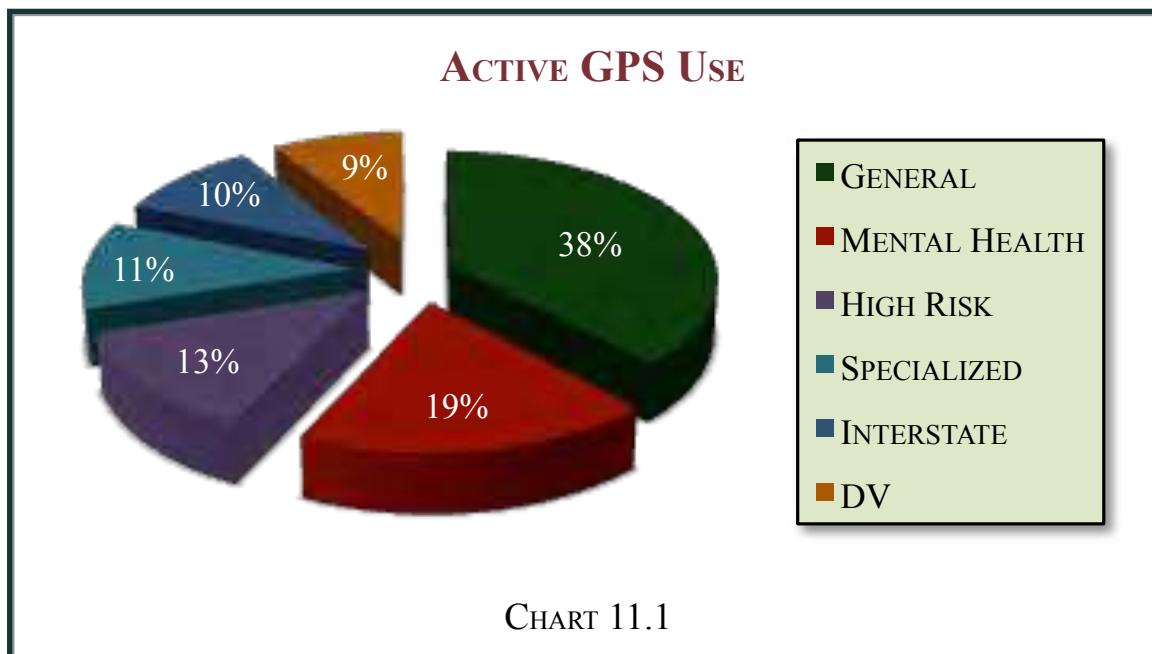
As seen in Chart 11.1, active GPS has been used in a broad array of cases:³³

- 38 percent of the offenders were on general supervision;
- 19 percent were on mental health supervision;
- 13 percent were on specialized supervision for high-risk substance use;³⁴

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- 11 percent were on sex offender supervision;
- 10 percent were on interstate supervision; and
- 9 percent were on domestic violence supervision.

All electronic monitoring systems can send zone violation notifications to probationary staff and, if ordered by the court, other parties such as witnesses and victims.³⁵



A Pew Research Center survey found a recent decline in the use of RFM.³⁶ Its use by courts fell twenty-five percent between 2005 and 2015.³⁷ However, the use of GPS technology more than made up for the RFM decline with a thirtyfold increase from a decade earlier.³⁸ (See Figure 11.2.) The change in usage suggests that RFM cannot compete with the more flexible GPS systems. This should be a factor courts consider when making decisions about the technology they select.

In 2006, a Florida study of 75,661 offenders ordered to use RFM and GPS found these tracking devices had “prohibitive” effect on absconding.³⁹ The analysis

established that individuals placed on these tracking devices were 89 to 95% less likely to be arrested for a new offense while wearing the bracelet.⁴⁰ The authors concluded:

In relation to public safety effectiveness, electronic monitoring was found effective in reducing the likelihood of reoffending and absconding while on home confinement. Both radio frequency and GPS significantly reduced the likelihood of revocation for a new offense and absconding from supervision, even when controlling for sociodemographic [Generally, **characteristics** such as age, gender, ethnicity, education level, income, type of client, years of experience, location, etc. are being considered as **socio-demographics** and are being asked in all kinds of surveys] characteristics of the offender, current offense prior record, and term of supervision factors and conditions. The authors also concluded both types of devices were equally effective at reducing revocations or incidents of absconding.⁴¹

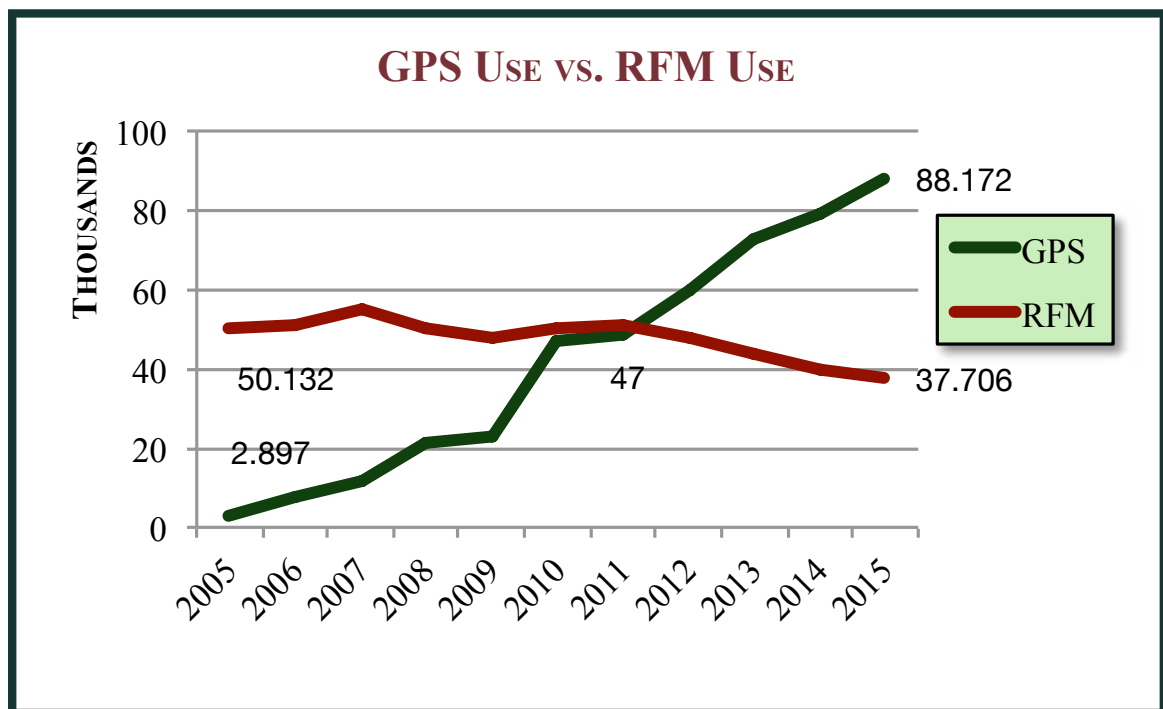


CHART 11.2

11.3 DIGITAL MONITORING

Digital monitoring relies on software to track a probationer's use of a computer, tablet and/or smartphone.⁴² There are two basic types of software (both direct and remote) that are used to monitor an individual's internet use.

Direct digital supervision relies on a type of software that can be used by a probation officer who is not trained in computer forensics.⁴³ The first version of this software was developed to track sex offenders by the National Law Enforcement and Correctional Technology Center in 2005 and has been routinely updated.⁴⁴ It is available, without cost, to any criminal justice agency.⁴⁵ To install the software, court staff must have direct access to the probationer's device(s).⁴⁶ Once installed it searches the device's browsing history, cookies, images, social media, and text files.⁴⁷ It can also be set to search for keywords and images.⁴⁸ The software will automatically log all files that have been opened and provide a date and time stamp for their original use.⁴⁹

The results are downloaded onto a standard spreadsheet for review and analysis.⁵⁰ This allows a probation officer to understand the individual's internet use including their downloading habits.⁵¹

Remote digital monitoring relies on software that can be installed on a probationer's device at any time and, once installed, continuously monitors the computer's usage.⁵² The information is then wirelessly transmitted to the probation staff for review.⁵³ As with direct monitoring, the information is downloaded onto spreadsheets for review. There are some limitations on the use of remote monitoring as current software cannot access email or chat information.⁵⁴

Digital monitoring may be used to track a probationer's computer, tablet and smartphone usage including downloaded images.

A recent issue paper by the American Probation and Parole Association provides a detailed comparison of the two forms of digital monitoring.⁵⁵ (See Table 11.1.)

COMPARISON OF DIRECT AND REMOTE SOFTWARE

Direct	Remote
Can detect evidence months, even years, old.	Only monitors from time software is installed. Will not open and search files/directories. Will record whatever the user does on the monitored system after installed.
Can be used to examine all operating systems and any device with memory, including all computers, cell phones, I-Pods, MP3 Players, gaming devices, GPS devices, cameras, printers, USB drives, memory sticks, etc.	Monitoring software is primarily limited to Windows and Apple operating systems and computers. Hardware devices can be used for other operating systems. Some cell phones can be monitored. However, there is no monitoring software or hardware for gaming devices, I-Pods, cameras, and other devices.
Wiping utilities can destroy evidence. Encryption programs can prevent evidence from being reviewed. Steganography can conceal evidence all together. These programs can therefore reduce a search's effectiveness. A search might detect the presence or use of these programs and can be used to determine if monitoring software has been defeated. Additionally, searches can be used to examine computers which were used in lieu of a monitored computer.	Monitoring software records everything that occurs, including using wiping, encryption and/or steganography [file concealing] programs. Results can also be forwarded to a remote location, out of offender's control. The results can be reviewed showing the evidence as well as attempts to conceal or destroy it. Disabling monitoring software itself can occur. However, getting it back up and running, without detection, is usually problematic. Best way to overcome monitoring is simply to use a non-monitored computer.

COMPARISON OF DIRECT AND REMOTE SOFTWARE

Direct	Remote
Depending upon extent of search and software may take up to an hour, days or even weeks.	Software installation is fast, usually done in less than half hour. Time spent reviewing monitoring results is dependent upon number of alerts received and user activity. Average estimated review time varies from few minutes to several hours. The reviews, dependent upon software, might need to occur on site vs. in the office.
Traditionally searches required direct access to computer. However, there is some forensic software that allows a remote search of a system. An officer installs software on the system that allows an officer to view what is on an offender's system at any time through the Internet.	Software can either maintain results on the target computer, which requires direct access or can forward results to an officer or to a server for review over the Internet.
Dependent upon when search is done. If search not done for days noncompliance will not be detected for days.	Software that reports via the Internet can generate alerts and/or monitoring reports which can be reviewed almost in real time. Software that does not communicate via the Internet, like a search, will only reveal noncompliance when it is reviewed.
Dependent upon whether a simple preview search is done or full forensic examination. The more in depth the greater the need for [more sophisticated] equipment/software/training.	Software and/or service must be purchased. Little training is required to install and monitor.

TABLE 11.1

A 2008 study of 269 probation supervisory personal who used monitoring software, found broad agreement that the information was useful in determining compliance with conditions of probation while at the same time assisting treatment providers.⁵⁶ Seventy percent of those surveyed also indicated that the digital monitoring evidence was used in a subsequent court proceeding.⁵⁷



11.4 BIOMETRICS

Biometrics is the science of biological measurement.⁵⁸ Every person has a different biometric key or traits.⁵⁹ There are a number of keys, but those most useful include: face, fingerprint, tattoos, palm print, iris, palm/finger vasculature [blood vessels in the fingers and hands], DNA and voice.⁶⁰

Biometric keys are generally used in conjunction with other technologies such as automated supervision systems or electronic tracking. Selected keys are uploaded in the form of numeric data into the court's computer system to be kept as part of the probationer's information.⁶¹ This information, called a template, uses the numeric code as a description of the probationer.⁶² After entry, these templates are used by the computer system whenever there is a request for access.⁶³ If a template is matched, access for contact is granted; if there is no match, access is denied.⁶⁴ The results allow an automated computer system to verify the identity of an individual as when a cellphone picture is provided during a breath test.⁶⁵

Matching biometrics allow systems to identify an individual while performing a condition of probation such as taking a drug test.

The first automated biometric template to be created in 1963 was to match fingerprints.⁶⁶ Voice, face, and signature matching quickly followed.⁶⁷ Within a decade, templates for hand shape and irises were developed.⁶⁸

Not all biometric keys have sufficient scientific support to qualify as admissible evidence under *Daubert* or *Frye* standards.⁶⁹ However, this does not prevent their use with automated systems for purposes of identity confirmation in conjunction with court appearances, probation reporting, warrant verification, sex offender tracking, criminal history checks and remote automated supervision.⁷⁰

11.5 AUTOMATED SUPERVISION

In recent years courts across the United State have been overwhelmed with growing caseloads while at the same time being put under pressure to reduce operational costs.⁷¹ The struggle to do more with less resulted in a search for new ways to supervise probationers.

These efforts were also driven by recent studies which established that a low-risk, low-needs individual, as determined by a verified instrument, have higher risks of recidivism when ordered to regularly report for probation.⁷² (See: Section 10.2.2 *Evidence-Based Sentencing—Risk/Needs Assessment* for a full discussion of risk/needs assessments and level.) As a result, remote access automated reporting systems which require less contact with the court or probation officer have emerged as an important tool in probationary supervision.⁷³

Automated probation supervision includes kiosks, web-based supervision and smartphone applications.

These automated systems include kiosks, web-based supervision and smartphone applications.

Kiosk systems replace in-person reporting to a probation officer with an ATM-like computerized stand.⁷⁴ After an initial meeting with the probation officer, who reviews the probationer's risk/needs levels and obtains biometric keys, the probationer is required to report at a kiosk.⁷⁵

The probation officer then programs the court's computer system to set the parameters of the probationer's kiosk reporting schedule including orders for random alcohol or other drug testing.⁷⁶ The biometric keys in the court's computer system are used to confirm the probationer's identity during kiosk reporting.⁷⁷

Reporting at a kiosk generally begins with the entry of an identification number followed by a question as to which language is best for reporting.⁷⁸ The kiosk system then compares the biometric keys that have been previously entered into the court's computer system.⁷⁹



Once identified, the probationer is asked to update contact and employment information as well as respond to the specific questions that the probation officer entered during the initial meeting.⁸⁰ The offender may also make payments at the kiosk.⁸¹

Web-based supervision works in a similar manner to kiosks.⁸² There is an initial meeting with a probation officer where program goals are discussed, and biometric keys are collected and uploaded into the court's computer system. The probationer may be given a username and password to access the system allowing him or her to report from their device at home or from any public computer.⁸³ The web reporting would then work in the same manner as a kiosk.

Most Americans own a smartphone. According to the Pew Research Center 95% own a cell phone of which 77% are smartphones.⁸⁴ Even among those earning less than \$30,000 a year, 92% have a cell phone, with 69% owning a smartphone.⁸⁵ Wide availability of cell phones and smartphones has driven the increasing use of cellular technology for probation supervision.

A variety of “apps” have been developed to assist in cell phone supervision. They can trigger a drug test, report to probation or schedule a treatment session.

Cell or smartphone reporting is structured in a similar manner as kiosk and web-based reporting. After an initial meeting with their probation officer, who gathers the same information as with the other forms of remote reporting, the probationer is required to report by cell phone.⁸⁶ Like web based and kiosks systems, the probation officer enters the parameters of the probationer's conditions into the court's computer system.⁸⁷ The resulting program makes automated calls to

the probationer.⁸⁸ These calls, like in-person meetings, have an appointment date and time,⁸⁹ although the computer system can also be programmed to contact the probationer on a random basis.⁹⁰ The computer also uses biometric keys like voice or camera to identify the individual while some programs may require the entry of a specific numeric code.

More recently, smartphone applications (apps) have been added to cell phone supervision. These apps send notifications to a probationer to take a random alcohol or other drug test, or to schedule a probation appointment or therapy session.⁹¹ Some have the ability to monitor an individual's location history through the smartphone's GPS.⁹² However, as smartphone systems cannot be securely attached to an individual like an ankle bracelet, they should not be used for home confinement or curfew restrictions.⁹³ Because a smartphone may merely be left in place, there is no way to verify if the person is actually where the phone indicates she or he is.

These apps can also be used in conjunction with Bluetooth devices such as a biometric ankle band, for such things as remote alcohol testing.⁹⁴ An order to install an ankle bracelet for such monitoring would be appropriate if the judge has ordered "no alcohol" as a condition of probation.

At least three studies have concluded that automated supervision for low-risk offenders is cost-effective and either decreases the risk of recidivism or at least does not increase it.

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The first of these studies examined the use of kiosks to supervise low-risk, low-needs offenders in New York City.⁹⁶ The study found that the use of kiosks was associated with a slight, but statistically significant decline in recidivism, 31% vs. 28%.⁹⁷

A second study evaluated low-risk, low-needs, probationers in Hyattsville, Maryland.⁹⁸ The Maryland Department of Public Safety reported a more significant decline, 2% vs. 10%, in recidivism for individuals using a kiosk versus traditional in-person supervision.⁹⁹

The third and largest study conducted in Rockville, Maryland, analyzed both kiosk and remote telephone reporting for low-risk, low-needs offenders in comparison to traditional supervised probation.¹⁰⁰ The authors stated: "The findings from previous studies as well as the current multi-jurisdiction kiosk study suggest that low-risk

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clients assigned to kiosk supervision are no more likely to be rearrested than are low-risk clients assigned to traditional officer supervision or to telephone reporting”¹⁰¹

The study also asserted that there was no significant difference in re-arrest rates between those who are reporting by kiosk and those who were reporting by telephone.¹⁰²

11.6 ALCOHOL AND OTHER DRUG TESTING*

According to the American Society of Addiction Medicine (ASAM), “The New Paradigm, embodied by these and similar programs (court ordered drug testing), has been shown to significantly reduce drug use, criminal recidivism, and incarceration. The foundation of this approach is frequent, random drug testing.”¹⁰³ Frequent, random, long term, drug testing makes it more difficult for probationers to find times to use alcohol and other drugs between tests.¹⁰⁴

Most alcohol and other drugs, depending upon what the assay is testing for, can be discovered within a period between 24 to 72 hours. Testing less than twice a week creates a gap that allows probationers to use without being detected.¹⁰⁵ Studies have established that those courts that test at least twice a week reduce recidivism by 38%.¹⁰⁶

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A schedule of random/unpredictable alcohol and other drug tests ensures an effective drug testing program.¹⁰⁷ To be effective, the probability of being tested on weekends and holidays must be the same as during weekdays.¹⁰⁸ Probationers must provide a specimen no later than eight hours after being notified.¹⁰⁹ For drug tests with short windows of detection, like oral fluid tests, probationers must provide a sample within four hours of notification.¹¹⁰

Drug testing should start upon entry into supervision and continue with no interruptions until the end of probation. Probationers state that long term testing helps them keep drug free and gives them refusal skills when confronted by the opportunity to use.¹¹¹

* This section (11.6 ALCOHOL AND OTHER DRUG TESTING) was previously published by the Michigan Association of Treatment Court Professionals and written by the same author. See: BRIAN MACKENZIE & DAVID WALLACE, DRUG TESTING STANDARDS COMM. MICH. ASS’N TREATMENT CT. PROF’LS, DRUG TESTING MANUAL (2nd ed. 2017).

Testing for the full range of substances that are most likely to be used by your court probationers or in an individual community is paramount. Awareness of new substances of abuse that are constantly being sought out by offenders in order to use without detection must be added to the testing to be effective. Therefore, occasionally testing for a wider range of potential drugs of abuse will keep the program ahead of the probationers and possibly determine what new substance use might be emerging within a local population.¹¹²

11.6.1 Urine

While urine is the “go to” methodology for drug testing, breath, oral fluids, sweat and hair can be useful testing methods depending upon the circumstances and court needs.¹¹³ Testing methodologies should be based, at least in part, on what drugs are being used in the communities that the court serves. To be admissible in a hearing, testing must use scientifically valid and use reliable methods. Appellate court decisions accept the scientific validity of several methods for analyzing urine, including gas chromatography/mass spectrometry, liquid chromatography/tandem mass spectrometry and the enzyme multiple immunoassay technique.¹¹⁴ Courts have also ruled that some breath, sweat, oral fluid, hair, and ankle-monitor tests are scientifically acceptable.¹¹⁵

Urine is the “gold standard” for drug testing and is the most common method used by courts.

Evidence of substance use can be found in urine, blood, saliva, hair, nails, sweat and breath.¹¹⁶ However, because of the unique make up each drug and specimen type, concentrations may vary greatly among these specimens.

Despite the variety of specimen types, urine remains the best option for court-ordered abstinence monitoring. With its longstanding history, urine is accepted as the gold standard for drug testing.¹¹⁷ In the court system, urine testing is the most commonly used testing approach for illicit and licit drugs including alcohol.¹¹⁸ Urine is inexpensive to analyze and offers the widest range of drugs test panels. The tests themselves are generally accurate with false negatives more likely than false positives.¹¹⁹

The primary problem with urine testing is its unsavory nature. Some probation officers or others tasked with collection are reluctant to do observed tests. While this is understandable, it is necessary for the integrity of the testing program that protocols, including direct observation, are followed. Urine specimens are not tamper proof. Probationers may attempt to alter specimens and are more likely to do so when they are unmonitored in collection situations or if they know beforehand when they will be tested.¹²⁰ Specimen adulteration can include water loading, substituting negative specimens for their own sample, or otherwise altering their samples. The risk of successful alteration is less when all sample collections are observed during collection and a random testing schedule is used.¹²¹

All urine samples must be tested for creatinine or specific gravity to detect dilution of a sample.

After a single episode of substance use, the detection window in urine is up to three days depending upon the characteristics of the substance being tested.¹²²

There are two basic types of urine drug tests. The first, called the immunoassay (IA), is accurate, cost-effective and provides quick results. The second type of test is called gas chromatography/mass spectrometry (GC/MS). GC/MS uses the same procedure for obtaining a urine sample as the immunoassay but getting any results takes longer and it is more expensive; for that reason, it is often used only as a confirming test after a presumptive test is positive.¹²³

Immunoassays urine drug screening is the most common currently used to test for substances that are abused. Immunoassays use either antibodies to detect drugs or drug metabolites which are the byproduct of the body breaking down a drug into different substances that can be detected in the urine. Laboratory animals are injected with a specific drug to produce the antibodies for each assay (for example, cocaine, PCP, etc.). Reagents containing these labeled antibodies can then be introduced into urine samples, and if the specific drug from which the antibody was made is present, a chemical reaction will occur which is read as a positive result. Even in small amounts, the reagent will react with the antibodies on the test device. If the drug or drug metabolite is not present or is not present above the cutoff level, it will result in a negative test. The various handheld tests or point of contact devices, and automated analyzers for urine are all immunoassays.

All urine testing technologies utilize specified antibody quantities that provide known immunoassay cutoff levels. A negative urine assay result does not necessarily prove that the subject did not consume the substance. Rather it may be that there simply was not enough of the substance in the donor's system to exceed the cutoff level.

Detection of substances in urine is affected by urine dilution; therefore, creatinine and/or specific gravity values, which can indicate dilution, should be reported out and taken into consideration on all urine tests.

There are two different types of immunoassay screenings: automated laboratory analyzers and Point of Collection Testing (POCT) devices.

Automated laboratory analyzers target metabolites because they are discharged over a longer period of time than the actual drugs themselves and therefore provide a better opportunity to detect use.¹²⁴ Some compounds are also considered representative of a drug class. For example, cocaine assays do not target cocaine because it has a short period of excretion.¹²⁵ Instead, they target an inactive metabolite unique to cocaine because it has a much longer window of excretion.

During automated laboratory analyzer testing, a chemical reaction occurs that changes the light-absorbing properties of the test mixture. Special instruments called spectrophotometers measure the changes in the amount of light the sample absorbs, which is related to the amount of drug or drug metabolite the sample contains. The more drug or metabolite present in the person's urine, the greater the response produced. If there is little or no drug present in the sample, the response is lower.

The sample's response is compared to the response of a calibrator which contains a known quantity of the drug in question. This known quantity of drug in the calibrator is the cutoff. If the sample's response is higher than or equal to the calibrator's the sample is considered positive for the particular substance. If the sample's response is less than that of the calibrator, the sample is considered negative.

Court testing programs using automated analyzers must be sure the laboratory operates according to the manufacturer's specifications and timetable. All personnel

responsible for running samples should be required to complete any manufacturer training and follow all recommended maintenance and operational instructions.

The potential disadvantage of all immunoassays, including automated laboratory analyzers, occurs when an antibody cross-reacts with a compound outside the class of drugs the analyzer is designed to detect. This can result in a false positive. Cross-reactivity problems differ between manufacturers and even between lots of reagents.¹²⁶

POCT, which relies on IA technology, is currently limited to a relatively narrow range of drug classes and a few specific drugs (usually 15 or less). POCT systems vary in design and the number of drugs tested. Generally, these systems are multi panel strips or urine test cups.¹²⁷ Each one is designed to test for multiple substances or metabolites at the same time. Each panel is a separate drug test and needs to be read independently of one another. Regardless of what design is chosen, it is very important that court-testing programs follow the manufacturer's instructions for using the device. These devices usually involve submerging a dipstick into the urine sample, using a pipette to draw out a small amount of urine to be placed on a test cassette or having the test built into the specimen container. Once the urine comes into contact with the testing device the collector must allow the manufacturer's recommended amount time to pass before "reading" the device for a result. This information can be found on the cup's instructions.

Generally, these devices have colored bands next to each drug being tested indicating whether a drug is present or absent in the particular sample. Most of these devices will also have a "control" band ("C") designed to ensure the testing device is performing according to the manufacturer's specifications. A test should be considered invalid if no colored band (line) appears in the control region (C) of the device. The drug or "test" bands ("T") indicate whether the testing device has detected a specific drug. The design of the point of contact devices vary with some devices testing for a single drug while others contain multiple channels testing for many drugs. Each drug will have its own separate color band. When a colored band/line appears in the drug or test region (regardless of the intensity of the color), the test is considered negative. The absence of a colored band/line next to a drug or test region indicates a "presumptive" positive result.



It should be noted that POCTs have expiration dates and handling instructions. Test kits that are ripped, torn, or past their expiration date should not be used. All kits should remain unopened until ready for use.

The potential disadvantages of POCTs include the subjective nature of the assays, questions about the integrity of the test reagents following transportation and storage, the possible lack of adequate quality assurance and quality control, data management issues and staff training issues.¹²⁸

11.6.2 Breath

Breath is the current standard specimen for alcohol testing.¹²⁹ Alcohol evaporates from the blood into the lungs and is excreted in breath, allowing it to be measured in a breath sample.¹³⁰ Breath tests are currently limited to alcohol as there are no current scientifically valid tests for other drugs using breath.¹³¹ However, new breath technologies are under development, so that breath testing for other drugs may become available in the future.¹³²

The Breathalyzer¹³³ or the Preliminary Breath Test (PBT)¹³⁴ are devices which produce an estimate of Breath Alcohol Content (BrAC) based upon the chemical analysis of an expired breath sample. These devices generally have a liquid crystal display (LCD) screen where the BrAC is displayed. For PBTs, which are handheld devices, readings generally are manually recorded, as some devices have no print capability. PBTs are easy to use, portable and relatively low cost and they must be calibrated monthly by a certified technician to ensure accurate readings. Breathalyzers, larger and typically stationary, will have a printout of the results. They must have an accuracy check run each calendar week.

Some courts are using interlocks and home breath testing devices as a form of daily or random breath testing when abstinence is a condition of probation or release from custody.

In addition to ordering probationers to place an interlock device in their automobiles to prevent them from driving after they have consumed alcohol, some courts are using interlocks and home breath testing devices as a form of daily or random breath testing when abstinence is a condition of probation or release from custody.

An interlock is a breath-testing device attached to a vehicle's electrical system that requires the probationer to submit to a breath test before the vehicle will start. If alcohol is detected at or above a cutoff level, the vehicle will not start. If no alcohol is detected, the vehicle will start.

It is Best Practice to require interlocks or home breath devices to have cameras.

Monitoring occurs when the probationer is required to go to an installer to have the ignition interlock device calibrated. While at the installation center, the instrument is checked to make sure it is working properly, and a report is taken from the instrument's computer. If there is a positive sample, it will be recorded with each subsequent sample to show whether or not the reading was in fact alcohol or if it was an interferent.

In-home breath devices are portable versions of an interlock. They are commonly ordered in some states as an alternative to onsite appearance breath testing. This is frequently done for probationers who don't drive or don't own vehicles.

Most interlocks and home breath testing devices have cameras attached. The device takes the test subject's picture and makes it available to the monitoring authority for photo-matching. If a court is using interlocks or home breath testing devices for alcohol monitoring, it is a best practice to require ones with cameras.¹³⁵

11.6.3 Oral Fluids

Oral fluid testing¹³⁶ analyzes a saliva sample for drugs and their metabolites.¹³⁷ An absorbent collection device is placed in the mouth and the saliva collected which is then screened for drugs of abuse. Samples are checked to verify the saliva is human and undiluted.

Over time oral fluid testing has grown in acceptance and use.¹³⁸ This shift has been driven by the fact that it now can detect more illicit drugs because of the improvements in drug testing technologies.¹³⁹ Oral fluid testing provides an ease of specimen collection and eliminates the problem of gender matching as would be required in an observed urine test. It is readily available and non-intrusive. However, oral fluid testing offers fewer test panels beyond what is offered for urine testing, although because of oral fluid testing's growth, broader panels are expected

to become commercially available.¹⁴⁰ Some concerns have been expressed about oral testing because of low specimen volume of test material from the use of a swab and the resulting difficulty these low levels of materials create in confirming tests.¹⁴¹ The detection window for Tetrahydrocannabinol (THC), the active ingredient in marijuana, is minimal, typically just within a few hours of use.¹⁴² The window of detection for other drugs in oral fluid is generally 12 to 48 hours, which is somewhat shorter than for urine.¹⁴³

Currently, to use oral fluid technology, testing programs must send their samples for confirmation testing to a reference laboratory to detect drugs and drug metabolites in saliva samples.

This method may be useful in some settings for on the spot testing or home visits, however its limitations suggest it should not be the primary method in a court setting in which timely responses to substance use is necessary.

11.6.4 Sweat Patches

Sweat patch technology¹⁴⁴ has some benefits over urine and other types of testing since it is relatively non-invasive and it is worn 24 hours a day for an extended period of time. The band-aid like patches are designed to be tamper resistant, with adhesives that can only be removed using special solvents. Once the patch is removed it is sent to a laboratory for testing. Although no immediate results are available, the patch is able to capture what alcohol and other illicit drugs the client may have used over an extended period of time.

There have been documented cases where clients have been able to heat and then dissolve the adhesive allowing them to place barriers between the patch and skin. The patches are then reattached to the skin to create the illusion of wearing the patch. When it is known the patch will be removed for analysis, the client may again dissolve the glue to remove the barrier and re-adhere the patch. A slice of bologna is a common barrier.

One study in 2010 claimed the use of sweat patches did not improve outcomes in a drug treatment court when used in conjunction with urine testing.¹⁴⁵ However, it is important to note that the study was conducted with both urine and sweat patch testing and it did not examine sweat patches as the sole type of testing.¹⁴⁶

When a person drinks alcohol a small amount can be detected in their “insensible sweat” or perspiration. Ankle bracelets use transdermal technology to test the concentration of alcohol present in perspiration that is given off by the skin.¹⁴⁷

11.6.5 Transdermal Ankle Bracelets

Transdermal ankle bracelets do not detect blood alcohol concentration (BAC) levels; instead they test for alcohol based on the transdermal alcohol content (TAC). These results are equivalent to BAC results. However, as the body absorbs alcohol, TAC peaks generally occur two hours after a BAC peak.¹⁴⁸ These ankle bracelets measure TAC and stores the data for upload to computers for reporting and analysis.¹⁴⁹ The data is then provided to court staff. Any attempt to remove or tamper with the bracelet, is communicated to the company that provided the instrument when the TAC data is uploaded.¹⁵⁰ Attempting to prevent a data upload will also be reported.

Some transdermal bracelets now have GPS¹⁵¹ built into them. Consequently, some courts have also used the devices as house arrest monitors to track probationer movements, particularly if the court has imposed curfews or restraining orders.¹⁵² They should be used to test for alcohol over a prolonged period of time.¹⁵³

Recently, a flexible wearable sensor has been developed that can accurately measure a person’s blood alcohol level and transmit the data wirelessly.¹⁵⁴

Overall, while these transdermal devices have historically been expensive, they have confirmed low levels of drinking.¹⁵⁵

11.6.6 Hair/Nails

Hair/nail testing has some benefits similar to sweat patches, since it can detect use over a long period of time.¹⁵⁶ If the drug was recently used, it does take some time (up to five to seven days) for it to show up in the hair shaft.¹⁵⁷ Because head hair grows at a rate of about 1/2 inch per month, 1 1/2 inches of hair may provide information on drug use for 90- day period.¹⁵⁸

Hair/nail testing is useful when looking to detect any drug use over a period of time. However, the results of this test can be misleading for clients who have used in the past but are not currently using.¹⁵⁹ It may be more appropriate to use this test as a

baseline test rather than for regular probationer testing. Similar to a sweat patch, hair/nails specimens are collected and then sent to an external laboratory for testing.

Probationers can limit the impact of this form of testing either accidentally or deliberately such as when a man shaves his head in an attempt to limit the testing availability. Similarly, when a woman colors or bleaches her hair it may cause some degradation of the drugs being tested for.¹⁶⁰ In addition, there is some concern that some hair colors (darker hair) may retain some drugs differently or longer than lighter colored hair.¹⁶¹

When testing nails, individuals with shorter nails can make collection difficult. However, nails are less likely to be affected by any external exposure to dyes or chemicals because they are thicker than hair.¹⁶²

Among the disadvantages of hair/nail testing is that some drug classes like benzodiazepines are poorly detected in hair.¹⁶³ In addition this form of testing can be expensive.¹⁶⁴

11.6.7 Blood

Most of the early drug testing used blood as there was no other methodology.¹⁶⁵ A blood test is difficult to adulterate, and it is very accurate.

The liver influences the absorption and conversion of drug metabolites in blood.¹⁶⁶ This means only a fraction of the drug reaches the bloodstream. Thus, detection time in blood for drugs is significantly shorter than the other methodologies. In fact, for opioids, cocaine, and amphetamines the detection time in blood is generally 24 hours or less.¹⁶⁷

Another concern about blood testing is that it requires medically trained staff to obtain a specimen, thus making it difficult for a police agency to obtain. It is also time consuming and expensive stemming in part from the requirements that it be treated as biohazard material.

11.7 ATTEMPTS TO DEFRAUD THE TEST

Probationers will endeavor to defraud chemical tests. These efforts include, dilution, adulteration, and substitution. Court staff members should be trained on how to implement countermeasures to prevent and identify tampered test specimens.¹⁶⁸

Ensuring that the probationer is the person providing the specimen is critical to reliable results. Courts and testing agencies cannot allow a different individual to take the place of the person who needs to be tested. Therefore, verifying the donor's identity is fundamental to good collection procedures.

Drug test samples in a court setting must be considered a form of forensic evidence.¹⁶⁹ Therefore courts must create policies and procedures that control

To prevent attempts to defraud the test, all submitted test samples should: 1. Be witnessed; 2. Inspected for evidence of dilution; and, 3. Provided timely.

specimen handling including such considerations as chain of custody documents, sample containers and storage compartments.¹⁷⁰

Sample collection is a critical component of an effective drug-testing program. The collection of valid samples is the necessary first step to an objective program.¹⁷¹

Witnessing a collection is essential. All sample collections must be observed; those not witnessed are of little or no assessment value.¹⁷² To that end

courts must require that all specimen collection is witnessed in a gender appropriate manner.

Collecting a valid sample is necessary in order to determine a probationer's drug use behavior. All specimens should be routinely inspected for evidence of dilution and adulteration including testing for creatinine, pH, oxidants and specific gravity.¹⁷³

Drug testing results must be reliable, and they must be provided in a timely fashion. Courts must have results that are both valid and legally defensible.¹⁷⁴ However, a procedurally fair court needs those results quickly so that impact of the results is therapeutically beneficial.



11.8 IN THE COURTROOM

To be admissible in a court proceeding, the tests must use scientifically valid and reliable methods.¹⁷⁵ Confirmation of a presumptive test should be made with an instrumented test that virtually eliminates the odds of a false positive result.¹⁷⁶ Courts should establish a procedure to ensure a valid chain of custody for each specimen.¹⁷⁷ Results falling below recommended cutoff levels should not be interpreted as evidence of new substance use.¹⁷⁸

Timing is one of the most influential factors for testing success. The sooner the court imposes sanctions for a positive test or provides an incentive for a negative test, the better the probationer can maintain sobriety. Negative test results should be reported no later than one day after a sample is provided and positive results should be received by the court within two days if confirmation testing is requested.¹⁷⁹

Probationers themselves reported that drug testing is one of the strongest factors that kept them from using.

When it comes to alcohol and other drug testing it is all too easy to draw unwarranted conclusions. Judges should understand that their first role is to be a gatekeeper when dealing with the results of a positive alcohol or other drug test. In that role they have a duty to decide if the drug test is admissible under either the *Daubert* or *Frye* standards.

When judges are also the finders of fact, they should rely upon the evidence that is entered into the record and not speculate or draw unsupportable conclusions. Simply because a judge has become familiar with alcohol and drug test results does not make them an expert.

One all too common courtroom response is to assume that higher concentrations in a test necessarily means that the probationer was heavily using. For many tests there is no scientific consensus that supports that conclusion. Test results can be misleading, if not correctly interpreted; therefore judges should always remember that they are not toxicologists. They can take the evidence as it is entered into the

record, but they may not speculate beyond that. Another common error is to assume that higher THC levels in a test done near in time with another means new use; it doesn't.

When it comes to supervision of high-needs probationers,¹⁸⁰ aggressive alcohol and other drug testing is a necessity. The authors of the "THE MULTI-SITE ADULT DRUG COURT EVALUATION" wrote in their executive summary:¹⁸¹ "Across multiple methods, among the most consistent findings were that offenders who received higher levels of ... drug testing, ... reported fewer crimes and fewer days of drug use." The study concluded:¹⁸² "Testing was significantly related to reductions in crime and drug use...."

Another study of drug treatment courts who supervised high-risk, high-needs probationers found that testing two or more times per week throughout probation produced significantly greater benefits including lower recidivism rates.¹⁸³ Probationers themselves reported that drug testing is one of the strongest factors that kept them from using.¹⁸⁴



11.9 CONSTITUTIONAL AND LEGAL CONSIDERATIONS

There are three predicate conditions essential to a probation order that includes the use of technological devices.¹⁸⁵ First, an order must be constitutional.¹⁸⁶ Second, it must be reasonably related to the protection of society and/or the rehabilitation of the probationer.¹⁸⁷ Third, the results produced by the device must be admissible under *Frye* or *Daubert* standards.¹⁸⁸

The United States Supreme Court has held that once an individual has been convicted of a crime and placed on supervision, they suffer a reduction in their constitutional rights.¹⁸⁹ Thus, it has held a warrantless search of a home is not a violation of an individual's privacy rights if they are under supervision.¹⁹⁰ Lower courts relying on *Griffin* have held that a probationer's Fourth Amendments rights are not violated by the use of an electronic monitoring device.¹⁹¹

While probationers do not lose all of their due process rights according to the Supreme Court,¹⁹² lower courts have found that the imposition of electronic monitoring is not punishment and therefore, does not raise a due process issue.¹⁹³

Courts have also found that the imposition of an electronic tracking device to enforce home confinement is not cruel and unusual (thus violative of the Eight Amendment), as it is less restrictive than incarceration.¹⁹⁴

Hearsay information contained in a probation officer's report can be admitted into evidence as probationers only have a qualified right to confront and cross-examine a witnesses in a probation violation hearing.¹⁹⁵ A probationer's demand to question a laboratory technician about the results of a drug test result can be denied for good cause.¹⁹⁶ However, at least one court has rejected the admission of a police report containing the results of a breathalyzer test where the probation officer did not speak with and could not attest to that police officer's training or ability to use the breath testing device.¹⁹⁷

The equal protection clause is not violated by requiring drug testing and/or the use of the GPS for tracking.¹⁹⁸ However, a court has found that remanding a defendant to jail, who could not afford a home detention monitor, was a violation of equal protection based on indigency.¹⁹⁹

Courts of have also rejected claims that a new charge arising from a violation of electronically supervised probation does not raise a question of double jeopardy or prevent the court from sentencing on the original charge.²⁰⁰

The imposition of the special conditions, such as alcohol or other drug testing or the requirement to use an electronic tracking device must relate to the goals of probation. Where there is no evidence that justifies a special condition, appellate courts have invalidated them.²⁰¹ However, appellate courts tend to apply a test that is similar to an abuse of discretion standard when examining lower court orders. As long as there is a reason to impose the condition the order will be upheld.²⁰²

The standards for admissibility of scientific and technological evidence in post judgment proceedings are less stringent than at trial.²⁰³ For instance, while hearsay evidence can be introduced to lay the foundation for the results from a tracking or testing technology, they must meet recognized scientific standards.²⁰⁴ The burden of meeting those standards still remains upon the party offering the evidence.²⁰⁵

Chain of custody is an issue in a post judgment proceeding. In order to ensure the admissibility of technological test results, court supervisor staff should follow procedures which should include a custody form signed by the probationer or court staff responsible for the results from the technological device.²⁰⁶ When results are outsourced, as may be in the case in drug testing, staff should have receipts that can be attached to the chain of custody form and they should inspect each package for possible tampering.²⁰⁷

If it appears that evidence may have been tampered with, that should be reported immediately to appropriate personnel.²⁰⁸ Any tampering event should be noted on the chain of custody form.²⁰⁹

The device itself, if possible, should be available for admission into evidence in order to demonstrate a lack of damage or in the case of possible tampering tool mark evidence or cut straps.²¹⁰ In addition, photographs should be taken of the device in the event the device is not available.²¹¹

Evidence taken from a tracking device, such as DNA left on the device, can be preserved and used to establish a link in the chain of custody.²¹²



11. POST SENTENCING SUPERVISION

Documentary evidence either in the form of test results or reports should be created to be offered into evidence.²¹³ The data recorded by and transmitted from a technological device must be documented.

A probationer must obey the directives of the probation officer regarding alcohol and other drug testing, reporting or use of tracking devices if the officer has correctly interpreted the court's order.²¹⁴ At least one court has decided that a probation officer has the authority to order a drug test, even in the absence of a court order.²¹⁵

11.10 CONCLUSION

Neither science nor the law stand still. Recent technological advances provide an opportunity to improve supervision and monitoring of probationers. However, not every technological advance is appropriate in a court ordered supervision context. Some technologies have yet to produce results that would be admissible under *Frye* or *Daubert* standards.

A judge does not have to understand all the specialized nuances associated with the many technological tools that can assist in probation supervision. However, even a limited understanding of these technologies combined with a clear understanding of the applicable law will improve probationary outcomes and reduce recidivism. Therefore, it is important for judges to become informed about the scientific and technological innovation that is changing probationary supervision.



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189. Hudson v. Palmer, 468 U.S. 517, 518 (1984). *See also* Williams v. Kyler, 680 F. Supp. 172, 173 (M.D. Pa. 1986), *aff’d*, 845 F.2d 1019 (3d Cir. 1988); Giano v. Goord, 9 F. Supp. 2d 235, 241 (W.D.N.Y. 1998), *aff’d in part, vacated in part*, 250 F.3d 146 (2d Cir. 2001).

190. Griffin v. Wisconsin, 483 U.S. 868 (1987)
191. See, e.g., Doe v. Coupe, 143 A.3d 1266 (Del. Ch. 2016), *aff'd sub nom.* Doe No. 1 v. Coupe, 158 A.3d 449 (Del. 2017).
192. Morrissey v. Brewer, 408 U.S. 471 (1972).
193. See, e.g., State v. Nation, 759 S.E.2d 428 (2014), *abrogated on other grounds by* State v. Ross, 815 S.E.2d 754 (2018); State v. Muldrow, 912 N.W.2d 74 (Wis. 2018).
194. See Barton v. State, 598 N.E.2d 623 (Ind. Ct. App. 1992)
195. See e.g., United States v. Walker, 117 F.3d 417 (9th Cir. 1997).
196. United States v. Grandlund, 71 F.3d 507 (5th Cir. 1995), *opinion clarified by* 77 F.3d 811 (5th Cir. 1996).
197. United States v. Lizarraga, 2005 U.S. Dist. LEXIS 25610 (D. Az. Oct. 27, 2005).
198. See e.g., In re R.V., 171 Cal. App. 4th 239 (2009), State v. Nation, *supra* note 193, Morgan v. Maricopa Cty. Adult Prob. Dep't, No. CV-12-0464-PHX-ROS, 2012 WL 4856386 (D. Ariz. Sept. 11, 2012), *report and recommendation adopted*, No. CV-12-00464-PHX-ROS, 2012 WL 4856306 (D. Ariz. Oct. 11, 2012)
199. State v. Shelton, 512 S.E.2d 568 (W. Va. 1998)
200. State v. Kovari, 85 Wash. App. 1102 (1997). See also State v. Nation, *supra* note 193; People v. Lopez, 97 P.3d 277, 278 (Colo. App. 2004), *as modified on denial of reh'g* (Apr. 22, 2004), holding that sentencing for deferred judgment violations, including positive urine tests, does not violate double jeopardy; DiMeglio v. State, 29 A.3d 663 (Md. App. 2011), imposition of sanction for drinking and driving in DUI Court did not bar subsequent prosecution for DUI offense on double jeopardy grounds.
201. See, e.g., United States v. Prendergast, 979 F.2d 1289 (8th Cir. 1992)
202. See, e.g., United States v. Williams, 787 F.2d. 1182 (1986); United States v. Tonry, 605 F.2d 144 (5th Cir. 1979).
203. Kevin Zeese, *The Use and Abuse of Drug Tests*, 5 CRIM. JUST. 2, (Winter 1991).
204. *Id.*

- 205. *Id.*
- 206. Brian MacKenzie, *supra*.
- 207. *Id.*
- 208. Del Carmen, *supra* note 185.
- 209. *Id.*
- 210. SELECTION AND APPLICATION GUIDE TO OFFENDER TRACKING SYSTEMS FOR CRIMINAL JUSTICE PROFESSIONALS, NAT'L INST. J., (2012).
- 211. *Id.*
- 212. *Id.*
- 213. *Id.*
- 214. United States v. Romero, 676 F.2d 406 (9th Cir. 1982); United States v. Bonnano, 452 F. Supp. 743 (N.D. Cal. 1978), *aff'd* 598 F.2d 1229 (9th Cir. 1979).
- 215. U.S. v. Duff, 831 F.2d 176 (9th Cir. 1987).

