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The Admissibility of Dried Blood Spot (DBS) Alcohol and Other Drug Test Results from the OpAns' amasse ™ Collection Device in Probation Violation Hearings

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Executive Summary

This paper explores the admissibility in probation violation proceedings of OpAns' patented amasse™ collection device for detecting alcohol or other drugs (AOD). The amasse™ device utilizes dried blood spot (DBS) collection, a minimally invasive method that has been around for over a century but has only recently seen widespread application in criminal justice settings. DBS collection offers several advantages, including ease of sample collection, extended detection windows, and the ability to test for a broader range of substances.

Driven by its relatively easy sampling procedure, DBS analysis has begun to emerge as an effective choice for AOD testing. As discussed above, it offers several additional advantages over other illicit drug/alcohol testing procedures, including extended sample stability, the capacity to transport samples at room temperature, and the ability to test for drug use over much longer periods than urine testing. Consequently, in resource-limited areas, DBS offers significant advantages when testing for AOD.

The admission of technological evidence in a court proceeding, in the majority of states, is controlled by the United States Supreme Court decision in *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993). However, a minority of states still follow the earlier court decision in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923). These two standards provide guidelines for determining the admissibility scientific evidence.

The DBS testing technology, utilized by the amasse™ device, offers a minimally invasive, efficient, and tamper-proof method for AOD detection compared to traditional urine testing. DBS testing also boasts extended detection windows and the ability to analyze a broader range of substances.

The adoption of the amasse™ device for AOD testing in probation violation proceedings has the potential to significantly improve the effectiveness of probation supervision. Its ease of use, extended detection window, and ability to test for a wider range of substances can contribute to a more comprehensive and data-driven approach to probationer monitoring. Moreover, DBS testing offers a more dignified and less privacy-invasive collection process for probationers.

The technology underlying the OpAns' amasse™ DBS collection device has gained acceptance in the field of AOD detection research. Results from its liquid chromatography–mass spectrometry system have been deemed admissible in court under both the Frye and the Daubert/FRE 702 standards. The reliability and accuracy of the high performance liquid chromatography technology underlying the OpAns' collection device have been established through repeated testing and publication in peer-reviewed journals. Published research by forensic experts supports the evidentiary use of DBS testing.

Therefore, the OpAns' testing technology is admissible under both *Frye* and *Daubert*/FRE 702, as it accurately detects the presence of AOD when properly administered.

Introduction

Probation violations are a common occurrence in the criminal justice system. Effective supervision of probationers often relies on accurate and reliable testing for alcohol and other drugs (AOD). This paper explores the admissibility of the OpAns' patented amasse™ collection device for detecting AOD in probation violation proceedings.

The amasse™ device utilizes dried blood spot (DBS) collection, a minimally invasive method that has been around for over a century but has only recently seen widespread use in criminal justice settings. DBS collection offers several advantages, including ease of sample collection, extended detection windows, and the ability to test for a broader range of substances.

When detecting AOD, DBS provides markedly accurate test results when used in conjunction with state-of-the-art analytical techniques.

This paper will first discuss the use of DBS testing for AOD detection in general. It will then explore the use of DBS testing for therapeutic drug monitoring (TDM), which is particularly important for supervising individuals with opioid use disorders. Finally, the paper will examine the admissibility of DBS test results under the *Frye* and *Daubert* standards. Our research establishes that the results of the amasse™ collection device are admissible as evidence of AOD use in a probation violation hearing.

DBS

The use of DBS began over one hundred years ago when Dr. Ivar Bang first used it to monitor glucose levels in rabbits.[1] Fifty years later, Dr. Robert Guthrie started DBS screening for metabolic diseases in newborns.[2] Since then, DBS has evolved significantly, with numerous applications involving DNA, the detection of mumps and measles, and monitoring HIV and more recently testing for AOD.[3]

Collection is straightforward: blood drops from a finger prick or heel prick are placed on absorbent cotton fiber paper,[4] typically printed with pre-marked circles to indicate the placement and amount of blood needed.[5] After air-drying, the chemicals in a DBS sample become stable, eliminating the need for costly and complex refrigeration during transportation and analysis.[6] Once dry, the sample is placed in a sealed container for transportation to a testing laboratory.[7]

In the laboratory, all the circled spots ranging from 3-6 mm in diameter are machine-punched into an analyzing tray for testing.[8] The diameter matters as it affects the concentration of the substance being tested.[9] Smaller volumes impact the test as red blood cells and associated markers accumulate at the periphery of the blood drop circle.[10]

When detecting AOD, DBS provides markedly accurate test results when used in conjunction with state-of-the-art analytical techniques like liquid chromatography coupled with mass spectrometry detection.[11]

The use of mass spectrometry started in the mid-20th century for both quantitative and qualitative analysis, biomarker discovery, and protein analysis.[12] Initially, its use was limited to large specialized scientific laboratories due to the sophisticated and expensive equipment.[13] However, with advancements in equipment design, its use grew. Thus, liquid chromatography–mass spectrometry analysis has seen enormous growth in clinical laboratories during the last 10–15 years.[14] This widespread acceptance, broad versatility, and reliability in various applications drove its use in detecting illicit drugs in blood, urine, and other bodily fluids.[15] As a consequence, liquid chromatography-mass spectrometry is now considered the gold standard for the analysis of opioids and their metabolites.[16]

AOD Testing with DBS

Driven by its relatively easy sampling procedure, DBS analysis has begun to emerge as an effective choice for AOD testing. As discussed above, it offers several additional advantages over other illicit drug/alcohol testing procedures, including extended sample stability, the capacity to transport samples at room temperature, and the ability to test for drug use over much longer periods than urine testing. Consequently, in resource-limited areas, DBS offers significant advantages when testing for AOD.[17]

Testing for drug use with DBS can serve three key purposes:

1. First, it can detect and identify a broad range of drugs of abuse.[18]

2. Second, it can monitor opioid drug levels, known as therapeutic drug monitoring (TDM), to improve supervision.[19]

3. Finally, due to its less invasive sample collection, DBS is an optimal choice for trauma-informed testing.

1. Detecting and Identifying a Broad Range of Drugs of Abuse

Starting with the first key purpose, the enhanced ability to detect a broader range of drugs is advantageous. Numerous studies have established that DBS can detect a broad range of illicit drugs from a single sample[20] including but not limited to cannabinoids, cocaine and its metabolites, various opioids, as well as markers for alcohol abuse.[21]

DBS analysis has begun to emerge as an effective choice for AOD testing.

Recently a study found that DBS testing is a potent tool in detecting fentanyl and its various forms, separate and apart from other opioids.[22] It can accurately measure multiple fentanyl analogues without requiring testing adjustments.[23] This same study noted that DBS meets stringent Food and Drug Administration (FDA) guidelines for accuracy and precision.[24] Additionally, it allows for the rapid incorporation of newly identified fentanyl analogs.[25]

The broad range of testing extends to psychoactive substances along with ketamine and so-called "gas station" designer drugs.[26] A recent study describes a successful analysis of numerous psychoactive substances and their metabolites.[27]

Because DBS technology preserves the testing sample, it creates what is known as the "stabilization effect."[28] This effect significantly extends the time window for detection for illicit drugs, allowing for a more comprehensive analysis.[29] This advantage is particularly valuable when compared to other testing methods, such as urine, oral fluid, sweat, or breath testing, which typically have much shorter detection windows.[30] By extending the timeframe during which drugs can be detected, individuals under supervision can be tested less often.

DBS technology not only offers a broader window for detecting illicit drugs, but it can also play a crucial role in alcohol testing, using assay biomarkers such as Blood Phosphatidylethanol (PEth).[31] In a study involving participants who were required to abstain from alcohol, the PEth biomarker consistently detected alcohol use.[32] This biomarker functions similarly to urinary Ethyl Glucuronide (EtG) and Ethyl Sulfate (EtS) testing, which have long been established measures of alcohol abstinence.[33] This extended detection capability has proven essential for identifying short- to medium-term alcohol consumption across various study contexts.[34] Specifically, the PEth biomarker was most often found among individuals with alcohol use disorders.[35] These studies have established that DBS technology has the capability to detect alcohol consumption over as far back as 60 days.[36]

DBS technology offers significant advances in the field of illicit substance detection and monitoring. Its ability to identify a wide range of illicit drugs and alcohol biomarkers from a single sample, along with its extended detection window and stabilization effect, has resulted in widespread scientific acceptance.[37] The technology's compliance with FDA guidelines and rapid adaptability to newly identified substances further enhance its reliability and precision. These advances in DBS technology provide accurate results for a broad spectrum of illicit drugs. When combined with its stabilization effect, DBS is an effective tool for monitoring individuals under supervision.

DBS TECHNOLOGY NOT ONLY OFFERS A BROADER WINDOW FOR DETECTING ILLICIT DRUGS, BUT IT CAN ALSO PLAY A CRUCIAL ROLE IN ALCOHOL TESTING.

2. Monitoring Opioid Drug Levels to Improve Supervision

Regarding DBS's second key purpose, current research establishes that the use of medications for opioid use disorder (MOUD) is the single most effective approach to the successful supervision of individuals suffering from opioid use disorders (OUD) when combined with treatment and testing.[38] However, supervising individuals with OUD in a

criminal justice setting presents a number of new and challenging tasks for courts and community supervision, particularly in the realm of drug testing. To ensure that individuals taking medications for their OUD are not diverting the medications or using other illicit drugs mandates testing for drug levels or TDM. This requires a quantitative drug test, which measures the drug concentration with a specific numerical value,[39] rather than a qualitative test, which simply reports a result as "positive" or "negative" based on a cut-off value.[40] A quantitative test is more expensive than a qualitative test due to the sensitivity and specificity of the technology required to determine the levels. Liquid chromatography–mass spectrometry is the primary technique commonly used for this purpose due to its high accuracy and reliability.[41] Owing to the technology's ability to detect low drug concentrations in minute amounts of biological fluids, some variation of liquid chromatography–mass spectrometry testing has been the choice in the vast majority of DBS applications.[42]

These features make DBS testing a powerful tool for monitoring individuals with OUD.

Addressing the challenges of supervising individuals suffering from opioid use disorders (OUD) requires a multifaceted approach that combines effective treatment, rigorous testing, and a thorough understanding of the testing technology involved.[43] The complexity of OUD supervision in a criminal justice setting necessitates coordinated efforts between healthcare providers, legal authorities, and community supervision officers. Each stakeholder plays a vital role in ensuring that individuals receive the support and monitoring needed to manage their condition effectively.

TDM plays a crucial role in this process by providing precise level measurements of drug concentrations.[44] This precision is essential for ensuring adherence to prescribed medications and preventing misuse, which can be particularly challenging in a criminal justice setting. By closely monitoring drug levels, TDM helps to maintain the delicate balance between effective treatment and the prevention of relapse or overdose. This approach not only supports the individual's recovery but also contributes to public safety by reducing the risk of drug-related incidents.

DBS testing using liquid chromatography with mass spectrometry technology can ensure accurate and reliable measurement of drug concentrations, which is essential for effective supervision and management of OUD.[45] This advanced testing method offers several advantages, including the ability to detect a wide range of substances from a single sample and an extended detection window. These features make DBS testing a powerful tool for monitoring individuals with OUD, providing courts and community supervision with the data needed to make informed decisions about treatment and supervision strategies. The integration of DBS testing into the supervision process enhances the overall effectiveness of managing OUD within the criminal justice system.

3. The Optimal Choice for Trauma-Informed Testing

Finally, regarding the third key purpose, a recent report by the Pew Charitable Trusts establishes that individuals suffering from trauma are overrepresented in the criminal justice system.[46] Trauma-informed drug testing is an approach that recognizes the significant impact of trauma on an individual's behavior and well-being and integrates this understanding into the drug testing process.[47] It acknowledges that past traumatic experiences, such as abuse or neglect, can influence substance use patterns and may affect how individuals respond to drug testing.[48] This is particularly relevant for urine drug testing, which has been found to trigger adverse reactions in individuals who suffer from severe trauma.[49]

Trauma-informed principles, such as clear communication, sensitivity to triggers, and offering appropriate support resources, foster trust and cooperation. This not only improves the accuracy of drug testing outcomes but also ensures that individuals are treated with respect and compassion, ultimately enhancing their engagement in treatment and reducing recidivism.[50]

DBS testing, when implemented as part of a trauma-informed approach, offers a sensitive and compassionate alternative form of testing. By taking only a small sample of blood DBS testing minimizes discomfort and reduces the invasive nature of sample collection, which can be particularly important for individuals with a history of trauma. This approach aligns with trauma-informed principles by creating a less stressful testing experience, thereby decreasing the potential for re-traumatization. Additionally, the ability to perform DBS testing in a private, non-clinical setting further supports individuals who may be wary of conventional testing environments. Overall, DBS testing, when integrated into a trauma-informed framework, can improve engagement and compliance among those who have experienced significant trauma.

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Admissibility of DBS

The use of experts in the courtroom roughly coincides with the scientific revolution.[51] Before then, lay witnesses could only provide testimony about matters they had directly experienced, while established experts were permitted to offer opinions.[52] The sole criterion for accepting an expert's opinion was the expert's reputation and qualifications—a standard that persisted throughout the nineteenth century.[53] However, with the rapid advancements in scientific research during the early twentieth century, the standards for the admissibility of expert evidence began to change significantly, culminating in the 1923 decision in *Frye v. United States*.[54]

The Frye Standard

The court in *Frye*, a case that involved polygraph test results, recognized the need to go beyond the expert's qualifications and examine the quality of the underlying science.[55] Although the witness was a qualified expert in administering and interpreting polygraphs, the court determined that the reliability of polygraph results had not yet been sufficiently established within the scientific community to warrant their admissibility as scientific evidence. The ruling established that expert testimony must be based on well-recognized scientific principles that are generally accepted in the relevant field. The Frye rational remained the standard for the admission of scientific evidence for seventy years.

The Daubert Standard

That standard changed in 1993, when the U.S. Supreme Court published, what has been characterized as a more rigorous standard, *Daubert v. Merrell Dow Pharmaceuticals, Inc*.[56] In *Daubert*, the Court acknowledged that the body of scientific research had expanded enormously across various fields. By broadening the standard of admissibility, scientific evidence could be admitted even if it did not meet the "general acceptance" criterion of *Frye*.[57] The Court made it clear that "general acceptance" was not a prerequisite for admissibility. Instead, a rigorous standard of analysis was established to ensure the validity and reliability of the evidence presented. This analysis is to be conducted by trial judges, who act as gatekeepers to confirm that expert testimony is genuinely scientific—i.e., derived through the scientific method. Judges can consider several factors in this determination:[58]

1. Whether the evidence is generally accepted in the scientific community;
2. Whether it has been published in a peer-reviewed journal;
3. Whether it has been tested;
4. Whether an error rate has been established and deemed acceptable;
5. Whether the research was conducted independently of the litigation or anticipation of litigation.

Daubert established that reliability is foundational to admissibility and cannot be left to the trier of fact.

Daubert established that reliability is foundational to admissibility and cannot be left to the trier of fact merely as a matter of weight. Subsequent U.S. Supreme Court cases further addressed expert testimony. In *G.E. v. Joiner*,[59] the Court ruled that when there is no connection between the science relied upon by the expert and the expert's conclusions, the testimony cannot be admitted. It also held that the standard of review for erroneously admitted scientific testimony is abuse of discretion. In *Kumho Tire Co v. Carmichael*,[60] the Court extended a judge's gatekeeping function to

all expert testimony, whether scientific or non-scientific, despite *Daubert* specifically addressing scientific testimony.

In 2000, a year after *Kumho Tire Co v. Carmichael*, *Federal Rule of Evidence (FRE) 702* was amended to codify the principles established in the three *Daubert* cases. The rules were further amended in 2011 for additional clarification.[61] At the end of 2023, *FRE 702* was once again amended to read:[62]

> "A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the proponent demonstrates to the court that it is more likely than not that:
>
> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) the testimony is based on sufficient facts or data;
>
> (c) the testimony is the product of reliable principles and methods; and,
>
> (d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case."

In its note on the amendments, the Advisory Committee emphasized that "[n]othing in the amendment imposes any new, specific procedures."[63] The reason for the amendment to the longstanding rule was to "clarify and emphasize that expert testimony may not be admitted unless the proponent demonstrates to the court that it is more likely than not that the proffered testimony meets the admissibility requirements set forth in the rule. . . ."[64] The recent amendment is . . . a refocusing of the Supreme Court's instruction for judges to act as a gatekeeper to ensure proposed expert testimony 'is not only relevant, but reliable' when testimony is challenged."[65]

AS LEGAL SPECIALISTS, JUDGES MUST ACT AS GATEKEEPERS FOR SCIENTIFIC EXPERT TESTIMONY IN COURT, DECIDING WHETHER TO ADMIT OR EXCLUDE IT.

Therefore, under *FRE 702*, an expert's opinion must be of a scientific, technical or specialized subject that requires specialized knowledge. The opinion must be based on sufficient facts or data, shown to be the product of reliable principles and methods, and that the expert must have relied on these principles and methods.

Most states have adopted the *Daubert* standard as modified by *FRE 702*, with only a minority continuing to apply some form of the *Frye* standard.

Whether applying *Frye* or *Daubert/FRE 702* standards, judges should not try to become scientists. Their role requires them to be generalists in knowledge but specialists in law.[66] As legal specialists, judges must act as gatekeepers for scientific expert testimony in court, deciding whether to admit or exclude it to ensure that the fact-finder receives accurate scientific evidence for a just verdict.[67]

It is not a judge's job to decide if DBS technology works; rather, it is the court's responsibility to determine if the required standards for expert evidence have been met. Given the existing scientific understanding, as reflected in the scientific papers, it is clear that DBS test results are admissible under both the *Daubert* and *Frye* standards.[68]

Of value to this analysis are three cases: two arising out of New York, which follows the *Frye* Standard,[69] and one from West Virginia, a state that has adopted the *Daubert* standard.[70]

In the case of *People v. Joseph*,[71] the New York appellate court reviewed the admission of blood spots in a case where the defendant was convicted of several offenses, including aggravated vehicular assault and driving while impaired by drugs. The defendant argued that the court erred in allowing the People's expert to testify that the cocaine found in the blood samples taken from the defendant's car was present in the defendant's bloodstream prior to the accident. The appellate court noted that the trial court conducted a Frye hearing and concluded that, although the samples tested by the People's expert were unique in that they consisted of dried blood taken from the car, the techniques employed by the expert, i.e., gas chromatography-mass spectrometry and immunoassay, were routine and generally accepted as reliable for detecting the presence of cocaine and its metabolites.[72]

GIVEN THE EXISTING SCIENTIFIC UNDERSTANDING, . . . IT IS CLEAR THAT DBS TEST RESULTS ARE ADMISSIBLE UNDER BOTH THE DAUBERT AND FRYE STANDARDS.

Subsequently, the defendant filed a federal writ of habeas corpus in the Western District of New York in the case of *Joseph v. Lavalle*[73] claiming, among other grounds, that the admission of the blood spot evidence violated both the *Frye* and *Daubert* tests.[74] The federal court held that the *Daubert* standard was not applicable, as this case was brought under New York law, which had adopted the *Frye* standard. The federal judge then ruled that the evidence had been correctly admitted under *Frye*.[75]

In 2020, IN *RE H.R. and M.R.*[76] the West Virginia Supreme Court, reviewed a trial court order terminating the parental, custodial, and guardianship rights.[77] The petitioner had agreed to "intensive drug and alcohol treatment," random blood and urine testing, individual therapy, parenting classes, maintaining a clean and suitable residence, and ceasing contact with "known felons, drug abusers, or persons with a [child protective services] history.[78] Although the petitioner testified that she had only a "glass of wine with dinner" on one occasion and denied other use, a DBS test was admitted, revealing that the petitioner's PEth levels signified binge drinking or frequent drinking.[79] Without directly addressing the lower court's evidentiary decision to admit the DBS test, the Supreme Court relied upon it, holding that the petitioner had "essentially substituted her drug addiction for alcohol."[80]

Probation violation hearings

Probation violation hearings have a less stringent standard of proof than exists in a criminal trial.[81] Unlike a criminal trial, where the prosecutor must prove the case "beyond a reasonable doubt," in a probation revocation hearing, the prosecutor only needs to prove by a preponderance of the evidence, that the probationer violated the court's conditions.[82] This means, the prosecution must show that it is "more likely than not"—or just over a 50% likelihood—that a violation occurred.[83]

Furthermore, the standard for admitting evidence in probation violation hearings is lower, permitting evidence that would not be admissible in a trial, such as hearsay, as long as it appears reliable.[84] (Hearsay evidence refers to any statement offered for its truth that is not made by a witness testifying at the hearing.)[85] Consequently, probation violation hearings have a more relaxed "reliability to support their probable accuracy" evidentiary standard, in order to establish a probation violation.[86] This does not mean that the results of an AOD test need not meet either the *Frye* or *Daubert/FRE 702* standards, but rather that hearsay evidence is allowed to be used to determine its admissibility.[87]

The OpAns' amasse™ DBS collection device is based on more than a decade of micro-sampling analytical experience.

Therefore, even in the context of probation violation hearings, it remains crucial to ensure that the evidence used to establish violations meets the appropriate standards for admissibility. DBS technology meets both standards.

It meets the *Frye* standard of reliability and general acceptance by experts in the field of forensic toxicology, making it a reliable and valid technique for admission as evidence in court.

While the *Daubert* standard is more complex, DBS also meets its criteria. DBS is based on scientifically valid principles and methodologies, including the use of gas chromatography-mass spectrometry and immunoassay, which are well-established techniques for detecting substances in blood. These methods have been peer-reviewed, have known error rates, and are widely accepted in the scientific community.[88] Additionally, the principles and methods used in DBS testing have been subjected to rigorous scientific scrutiny, ensuring their reliability and relevance in legal proceedings.[89]

The OpAns' amasse™ DBS collection device is based on more than a decade of micro-sampling analytical experience.[90] It can streamline collection, handling, and accurate quantitative and qualitative testing using advanced analytical techniques.

The OpAns' device is easy to use, containing three layers. The first layer funnels the specimen onto a second, center layer of absorbent paper, where it dries and becomes non-hazardous. The third layer is used to determine if a quantifiable specimen has been collected.

For the collection of capillary blood, the device requires only a lancet finger stick, similar to a standard personal blood sugar monitor. It comes in a standard kit with everything needed to collect three drops of the specimen, seal it, and send it through the mail for analysis.[91]

OpAns uses the best commercially available analytical instrumentation with highly optimized conditions to quantify drugs in DBS.[92] The analytical methodology is high-performance liquid chromatography–tandem mass spectrometry and it is considered the best definitive confirmation methodology for quantifying drugs in biological fluids.[93]

ACCURATE ANALYSIS BEGINS WITH THE AMASSE™ COLLECTION DEVICE THAT HAS BEEN ENGINEERED TO COLLECT, STABILIZE, AND STORE THE SPECIMEN WITH INTEGRITY.

Accurate analysis begins with the amasse ™ collection device that has been engineered to collect, stabilize, and store the specimen with integrity. Drugs are extracted from the DBS using conditions that maximize recovery of the target drugs while leaving proteins and other interfering substances on the DBS substrate. The components in the extract are further resolved by high performance liquid chromatography using modern highly efficient stationary phases with conditions that have been optimized to maximize selectivity, resolution and separation efficiency. Complementary high-performance liquid chromatography–tandem mass spectrometry methods are used for screening and confirmation to achieve an orthogonal analysis. Additional specificity is achieved by using quadrupole tandem mass spectrometry to isolate the ion with the desired mass to charge and then comparing multiple fragment ions from the parent ion to confirm it contains the expected structural subunits.[94]

OpAns' laboratory is inspected regularly by U.S. Department of Health and Human Services (HHS) auditors, participates in the appropriate proficiency testing programs, and has excellent inspection and performance records.[95]

As a result, the amasse™ device offers a comprehensive drug testing menu containing over 30 drug classes of testing panels, including the NIDA-5: cannabinoids, opioids, amphetamines, cocaine, and phencyclidine (PCP). Additional specialty drug tests are available upon request, including tests for Kratom, Synthetic Cannabinoids (K2), Tianeptine, Mushrooms (Psilocybin), Xylazine, and Phenibut.[96]

The StikNSpot DBS drug testing methodology expands cannabinoid testing beyond the traditional Tetrahydrocannabinol (THC) carboxylic acid metabolite. It tests for THC, the active THC alcohol, and the terminal THC acid metabolite. Additionally, the test distinguishes between the delta-8 and delta-9 forms, clarifying the source of THC exposure.[97]

Conclusion

In conclusion, this paper has explored the potential of OpAns' amasse™ collection device for alcohol and other drug (AOD) testing in probation violation proceedings. DBS testing, utilized by the amasse™ device, offers a minimally invasive, efficient, and tamper-proof method for AOD detection compared to traditional urine testing. DBS testing also boasts extended detection windows and the ability to analyze a broader range of substances.

The adoption of the amasse™ device for AOD testing in probation violation proceedings has the potential to significantly improve the effectiveness of probation supervision. Its ease of use, extended detection window, and ability to test for a wider range of substances can contribute to a more comprehensive and data-driven approach to probationer monitoring. Moreover, DBS testing offers a more dignified and less privacy-invasive collection process for probationers.

THE ADOPTION OF THE AMASSE™ DEVICE FOR AOD TESTING IN PROBATION VIOLATION PROCEEDINGS HAS THE POTENTIAL TO SIGNIFICANTLY IMPROVE THE EFFECTIVENESS OF PROBATION SUPERVISION.

The technology underlying the OpAns' amasse™ DBS collection device has gained acceptance in the field of AOD detection research. Results from its liquid chromatography–mass spectrometry system have been deemed admissible in court under both the *Frye* and the *Daubert/FRE 702* standards. The reliability and accuracy of the high performance liquid chromatography technology underlying the OpAns' collection device have been established through repeated testing and publication in peer-reviewed journals. Published research by forensic experts supports the evidentiary use of DBS testing.

Therefore, the OpAns' testing technology is admissible under both *Frye* and *Daubert/FRE 702*, as it accurately detects the presence of AOD when properly administered.

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