



# Between the Lines

## Mark Your Calendars

February 14, 2017

### TSRP Webinar

SFSTs and Drug Impairment

February 15, 2017

### AAMVA Webinar

Autonomous Vehicles & Law Enforcement Challenges

February 24, 2017

### PAAM Webinar

OWI cases & the HIPAA Myth

March 26–28, 2017

### Lifesavers, Charlotte, NC

March 31, 2017

### Deadline for nominations for the NHTSA / NAPC 2017

### Traffic Safety Prosecutor of the Year Award

(TSRPs are not eligible)

May 2–5, 2017

### TSRP Conference

Indianapolis, IN

June 15–16, 2017

### NTLC CDL Conference

Cincinnati, OH

## Breath Testing for Cannabis An Emerging Tool with Great Potential for Law Enforcement

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Over the course of the last decade, drug-impaired driving has become as significant a threat to public safety as alcohol-impaired driving on American roadways. During a 14-month period in 1990 and 1991, 17.8% of fatally-injured drivers from seven states tested positive for drugs (Terhune et al., 1992). This percentage has increased dramatically since that time. In 2005, 28% of fatally-injured drivers with known test results were positive for the presence of drugs and that number rose to 33% in 2009 (NHTSA, 2010). By 2013, 40% of fatally-injured drivers with known test results were found to be positive for drugs (FARS, 2015).

Cannabis is the most commonly abused drug among the general and driving populations. Recent roadside survey results show that the number of individuals driving after using cannabis is increasing. In the 2007 National Roadside Survey (NRS), 8.6% of weekend night-time drivers tested positive for the main psychoactive ingredient in cannabis, Delta-9 tetrahydrocannabinol (THC) (Berning et al., 2015). The 2013–2014 NRS revealed a disconcerting 48% increase as 12.6% of weekend night-time drivers tested positive for THC (Berning et al., 2015). As of November 2016, 28 states and the District of Columbia have legalized marijuana for medical and/or recreational use, thus increasing the availability and acceptability of cannabis. Unsurprisingly, arrest and

crash data from both Colorado and Washington in the post-legalization era expose the need to develop better field testing (Washington Traffic Safety Commission, 2016; Wong et al., 2016).

Officers traditionally test impaired driving suspects for drugs through blood and urine testing post-arrest. But, these methods have significant shortcomings. In this article, we discuss the limitations of blood and urine testing and the promise of another potentially capable method that may soon be available to law enforcement: breath testing.

### Current challenges relating to blood and urine testing for drugs

Despite increases in the prevalence of drugged driving, the majority of law enforcement agencies do not test suspected impaired drivers for drugs unless they provide breath samples below the illegal limit for alcohol (.08) or are involved in a serious injury or fatal collision as a matter of standard operating procedure. Toxicology laboratories rarely test for drug results if an alcohol result is greater than .08. This *must* change for several reasons. First, we cannot address a problem that is not adequately investigated or identified. The true magnitude of the drugged driving problem will not be known until testing rates increase. Second, prosecutors can use positive drug test results to bolster their cases in court even with an elevated blood alcohol concentration (BAC). Third, and perhaps most importantly, drug test results can inform

sentencing decisions and supervision options, including treatment referrals. The failure to test impaired drivers and collect objective information regarding their drug use represents a missed opportunity to identify and address an underlying cause of impaired driving behavior.

Unfortunately, the traditional methods for drug testing (blood and urine testing) are invasive, time-consuming, and expensive. One of the challenges associated with these testing methods is that the window of detection is long enough that one cannot presume (or, in many cases, even infer) impairment from presence alone. Given that some laboratories do not report concentrations of drug(s), it becomes difficult for experts to link the subjects' usage to their impairment. The window of detection for THC metabolites is much longer than the window for most other drugs commonly detected in DUID cases. While THC is metabolized and eliminated very quickly from the blood, chronic users may test positive for THC or metabolites for many hours after use.

Further, the traditional methods are subject to the Fourth Amendment warrant requirement. The Supreme Court held in *Missouri v. McNeely*, 133 S.Ct. 1552, 185 L.Ed.2d 696 (2013), and *Birchfield v. North Dakota*, \_\_\_ S. Ct. \_\_\_, 2016 WL 3434398 (June 23, 2016), that officers cannot collect blood samples in DUI cases absent probable cause and a warrant, except in exigent circumstances. The Court ruled that the metabolism of alcohol alone does not create an exigent circumstance since officers may be able to obtain warrants expeditiously through electronic communications in many circumstances. The Minnesota Supreme Court recently found that the rulings apply to urine testing as well (see *State v. Thompson*, 886 N.W.2d 224 (Minn. 2016)). While these case focus on blood alcohol issues, courts may determine whether exigent circumstances exist for a warrantless blood draw without consideration of the speed at which different drugs are eliminated from the bloodstream.

### **New technological innovation**

In an effort to address some of the shortcomings of testing blood or urine and to detect THC in a biological sample as close to the time of driving as possible, researchers and private entities have begun to explore the viability of breath testing technology for drugs. The goal of this technology is to find a combination of analytes and bio-samples that have short windows of detection and, therefore, correlate better with recent use.

Three new breath testing methods for cannabis – two of which provide on-site results – show significant promise, though they are in various stages of development. Each of the methods are designed to provide qualitative (i.e., indication of presence) and quantitative (i.e., amount of drug) results. All of the methods are or should be capable of passing the *Frye* or *Daubert* standard for qualitative purposes (i.e., determining the person used cannabis) assuming the manufacturers are properly testing and developing their devices. However, there currently are some questions about whether the devices' engineering is sufficient to ensure that the subjects' saliva will not affect quantification. Given the success of breath alcohol testing, we would expect any issues to be resolved favorably. Until the engineering is proven, the issue likely will need to be addressed on a case by case basis.

SensAbues® has created a product that essentially captures a sample of the suspected impaired driver's breath for forensically acceptable laboratory testing via liquid chromatography-mass

spectrometry (LC-MS) (for more information, refer to *Pitt, 2009*). There is a growing body of literature supporting SensAbues' methods for cannabis testing, though most of it was conducted or influenced by the manufacturer or the people affiliated with or funded by it. SensAbues is advantageous because it can be used to test for drugs of abuse other than cannabis, utilizes laboratory equipment that is regularly maintained, and generates results that likely will be admissible under *Frye* or *Daubert*. However, this technology does not provide on-site results and officers will have to send the device/sample to the laboratory for testing, making it less convenient than other breath testing methods. The cost per test will likely be equivalent to that of blood or urine testing.

Washington State University (WSU) and some private entities like Cannabix and West Point Resources, Inc. are developing breath testing devices that rely on field asymmetric ion mobility spectrometry (FAIMS) (for more information, refer to *Swearingen and Moritz, 2012*). FAIMS is a much more recently developed method than LC-MS, but is gaining general acceptance for testing volatile substances in the air. We expect that the cost per test will be limited to the cost of a mouthpiece (presumably under \$1.00 per test). Hound Labs is developing a breath testing device that relies on an unspecified chemical analysis. The costs of the test is likely to be equivalent to the combined cost of the cartridge (which must be changed after every test) and mouthpiece (an estimated total of \$20.00). Both the FAIMS and chemical-based devices are designed for on-site testing, which makes them very useful for screening purposes and supporting probable cause. Given that they are being developed by credible toxicologists and engineers and based on theoretically viable technologies, we assume that both will ultimately survive a *Frye* or *Daubert* challenge once they are fully developed. However, we cannot comment further in the absence of device-specific studies. One or more of these devices should become available for pilot testing in 2017.

From a law enforcement standpoint, breath testing for cannabis is advantageous to blood and urine testing since it can be used in the field to obtain on-site results, is non-invasive, and relatively inexpensive. Critically, they may be administered in the absence of a warrant pursuant to *Birchfield*.

### **Future considerations**

Cannabis breath testing has the ability to facilitate probable cause determinations and provide evidence of very recent usage. However, it also reasons that several complex factual, policy, legal, and evidential issues must be considered. For example:

1. How can we determine if breath testing for cannabis is ready for use in the field?
2. Is the engineering sufficient to ensure that subject's saliva does not affect quantification?
3. Until breath testing devices are developed that can test for drugs other than cannabis, should law enforcement use other methods to identify cannabis and/or other drugs?
4. If breath testing for THC/cannabis proves to have only a two hour window of detection or less as claimed, should states enact zero tolerance laws for cannabis akin to the 0.08 per se laws?
5. How should the devices be used?

6. When should these devices be used? (i.e., should the on-site kits be used to help establish probable cause? We note that the use of this technology and similar devices could help protect law enforcement agencies from false arrest suits).
7. At what point should policymakers begin considering legislation authorizing the use of these devices?
8. If the results are admissible for screening purposes only, should additional samples be collected for laboratory evidential testing from those who test positive?
9. How do prosecutors and courts address cases where a person tests positive using breath testing, but negative using another methods (i.e., blood or urine)?

In summary, researchers and entrepreneurs are developing methods and devices that could facilitate the identification of recent cannabis use and, when combined with DUID investigation including field impairment testing results, improve DUID detection and prosecution. We encourage groups concerned with saving lives on our highways including highway safety offices, law enforcement leaders, prosecutors, traffic safety resource prosecutors (TSRP), toxicologists, prosecutors, safety advocates and others to support the development and use of new technologies, address the policy issues revolving around them, and develop strategies to take advantage of them as appropriate.

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