Winter 2023

How Florida’s Courts Should Evaluate the Admissibility of Field Sobriety Testing and Blood THC Levels Evidence in Marijuana Impaired Driving Prosecutions

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Online ISSN: 2643-7759

Recommended Citation
DOI: https://dx.doi.org/10.25148/lawrev.18.1.11

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HOW FLORIDA’S COURTS SHOULD EVALUATE THE
ADMISSIBILITY OF FIELD SOBRIETY TESTING AND BLOOD
THC LEVELS EVIDENCE IN MARIJUANA IMPAIRED
DRIVING PROSECUTIONS

Chris Bomhoff*

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I. INTRODUCTION

Thirteen-year-old Cari Lightner and a friend were walking to a church carnival in Fair Oaks, California, on May 3, 1980.1 In an instant, Cari was hit by a drunk driver and died.2 Cari’s mother, Candace Lightner, went on to create Mothers Against Drunk Driving (MADD), a group that led the way to change drunk driving laws in the United States.3 MADD was and continues to be on the forefront of the effort to pressure government officials into cracking down on drunk driving, leading to more prosecutions of the

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2 Id.
3 Id.
offense. Today, field sobriety tests and laboratory toxicology tests to determine blood alcohol concentration are considered reliable evidence that courts readily admit in criminal trials related to drunk driving offenses.

Fast forward forty years to the summer of 2020. Twenty-five-year-old Krystal Kazmark and her boyfriend, thirty-year-old Joshua Daugherty, went for a drive down a winding desert road in California. Daugherty suddenly “‘jerked the steering wheel’ to the left and collided with another vehicle.” Kazmark died instantly due to injuries sustained. While Daugherty sustained major injuries, he was treated at a local hospital and survived. There was no evidence that Daugherty was under the influence of alcohol at the time of the accident; but Kazmark’s father stated Daugherty was known for “‘getting high in the car before he goes anywhere.’ That’s his thing.” Daugherty later admitted to using marijuana on the day of the accident, stating that he was “a habitual cannabis user” and “had smoked a ‘couple of bowls’ of cannabis earlier in the day.” However, Daugherty claimed that his consumption of cannabis did not cause him to be impaired at the time of the accident. A blood test demonstrated that Daugherty had 18 nanograms of tetrahydrocannabinol (THC), the substance that makes a person “high,” per milliliter of blood at the time of the crash.

Unlike drunk driving, there is no consensus in the scientific community that blood tests for THC concentration are a reliable method for determining whether a driver is impaired by marijuana at the time the test is

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4. See id.
5. See C.T. Foster, Annotation, Admissibility and Weight of Evidence Based on Scientific Test for Intoxication or Presence of Alcohol in System, 159 A.L.R. 209 (1946 & Supp. 2023); see also Steven J. Rubenzer, The Standardized Field Sobriety Tests: A Review of Scientific and Legal Issues, 32 L. & Hum. Behav. 293, 299–301 (2008); Breithaupt v. Abram, 352 U.S. 432, 433, 439–40 (1957). The Breithaupt Court held that police may forcibly retrieve blood for blood alcohol concentration testing in suspected drunk driving cases because society’s interest in motor vehicle safety outweighs the slight intrusion to an individual by drawing blood. This demonstrates the value courts place on blood alcohol concentration evidence in drunk driving cases.
8. Id.
11. Id.
12. Id.
13. Id.
administered. In fact, THC can remain in the blood for days following marijuana use, long after the impairing effects of the substance, if any, wear off. This means that a blood test can detect traces of THC in a driver who has not been impaired by marijuana in days. And while field sobriety tests may alert police to behaviors in a driver that indicate marijuana impairment, the standard field sobriety test was developed to identify alcohol impaired drivers, not cannabis impaired drivers. At this time, a reliable and readily deployable roadside cannabis impairment detection test is not available. Without such underlying reliability, should courts allow the introduction of expert testimony related to field sobriety tests and blood toxicology reports for the purpose of determining whether a driver was impaired by marijuana?

No reasonable person would argue that society should give up on regulating cannabis impaired driving until a more reliable test is developed. At the same time, society should not seek to criminally punish drivers that have traces of THC in their blood but are not actually impaired while driving.

This paper will discuss the current state of admissibility of expert evidence regarding field sobriety testing and blood toxicology results in marijuana impaired driving prosecutions in states where recreational marijuana use is legal. This paper will also provide an opinion as to how Florida courts should analyze the admissibility of current and emerging sources of expert evidence of marijuana impairment in drugged driving prosecutions. Because Florida courts analyze the admissibility of expert evidence under the Daubert standard, this paper will focus on the challenges courts face when determining admissibility of current and emerging scientific and specialized evidence under the Daubert principles.

II. BACKGROUND

As states legalize the recreational use of marijuana throughout the United States, motor vehicle crashes involving suspected marijuana impaired driving...
driving are on the rise.\textsuperscript{20} One study in the American Journal of Public Health found that, from 2000 to 2018, fatal car accidents in the United States involving a driver that tested positive for THC in their blood more than doubled over that time period.\textsuperscript{21} Over this same time period, the number of fatal car accidents involving drivers under the influence of alcohol remained stable.\textsuperscript{22}

As of this writing, recreational use of marijuana is legal in twenty-four states and the District of Columbia.\textsuperscript{23} And the trend toward legalization appears to be continuing to move forward at the state\textsuperscript{24} and federal\textsuperscript{25} levels. For example, on November 7, 2023, Ohio became the latest state to legalize the recreational use of marijuana when its citizens voted to approve the state’s “Marijuana Legalization Initiative.”\textsuperscript{26} And though marijuana is currently a Schedule I substance under the federal Controlled Substances Act,\textsuperscript{27} recent developments permit the inference that the federal government will soon legalize recreational use of marijuana under federal law.\textsuperscript{28} Such recent developments include President Biden granting pardons to certain individuals convicted of simple possession of marijuana under federal law,\textsuperscript{29} directing the Attorney General and Secretary of Health and Human Services to “review expeditiously how marijuana is scheduled under federal law,”\textsuperscript{30}

\begin{itemize}
\item \textsuperscript{21} Id. at 1978, 1980–81.
\item \textsuperscript{22} Id. at 1980.
\item \textsuperscript{24} See McKenzie Beard, Marijuana is on the Ballot in Five More States this Year, WASH. POST (Oct. 18, 2022, 8:02 AM), https://www.washingtonpost.com/politics/2022/10/18/marijuana-is-ballot-five-more-states-this-year/.
\item \textsuperscript{25} See JOANNA R. LAMPE, CONG. RSC. SERV., LSB10859, RECENT DEVELOPMENTS IN MARIJUANA LAW (2022).
\item \textsuperscript{26} Ohio Issue 2, Marijuana Legalization Initiative (2023), BALLOTpedia, https://ballotpedia.org/Ohio_Marijuana_Legalization_Initiative_(2023) (last visited Dec. 22, 2023).
\item \textsuperscript{27} “Schedule I drugs, substances, or chemicals are defined as drugs with no currently accepted medical use and a high potential for abuse. Some examples of Schedule I drugs are: . . . marijuana (cannabis) . . . .” Drug Scheduling, U.S. DRUG ENF’T ADMIN., https://www.dea.gov/drug-information/drug-scheduling (last visited Mar. 17, 2023).
\item \textsuperscript{28} See JOANNA R. LAMPE, CONG. RSC. SERV., LSB10859, RECENT DEVELOPMENTS IN MARIJUANA LAW (2022).
\item \textsuperscript{29} Proclamation No. 10467, 87 Fed. Reg. 61441 (Oct. 6, 2022). Additionally, the President urged all state governors to similarly consider pardons for those convicted of simple possession of marijuana under state law. Statement on Marijuana Reform, 2022 DAILY COMP. PRES. DOC. 00883 (Oct. 6, 2022).
\item \textsuperscript{30} Statement on Marijuana Reform, supra note 29.
\end{itemize}
and Congress enacting the Medical Marijuana and Cannabidiol Research Expansion Act aimed to expand federal research into marijuana.\textsuperscript{31}

Florida appears to be heading toward legalizing marijuana for recreational use in the next couple of years as well. A proposed state constitution amendment currently working its way through amendment committees could legalize recreational marijuana in Florida beginning in 2025.\textsuperscript{32} If approved by the various amendment committees, the amendment would go to a vote in 2024 where at least 60% of voters would be required to approve the amendment to legalize recreational use of marijuana in Florida.\textsuperscript{33}

If marijuana becomes legal for recreational use in Florida, it is logical to assume that the percentage of car accidents involving drivers suspected of marijuana impairment will rise in the state.\textsuperscript{34} This will certainly lead to an increase in prosecutions under relevant marijuana impaired driving laws; and it is not inconceivable that an advocacy group similar to MADD may push the state to prosecute marijuana impaired driving more aggressively. With that increase in prosecution, Florida’s courts will need to grapple with the desire to regulate marijuana impaired driving while not punishing drivers who legally use marijuana, and thus have THC in their systems, but are not impaired while behind the wheel. Florida’s judges’ role as gatekeepers for the introduction of reliable and helpful expert evidence will only become more important as the science continues to develop around roadside tests to determine marijuana impairment.

### III. ANALYSIS

#### A. Standard for Admissibility of Field Sobriety Tests and Blood Testing to Detect Marijuana Impairment

In 1993, the Supreme Court of the United States sought to determine a standard to evaluate the admissibility of expert evidence at trial in \textit{Daubert v. Merrell Dow Pharmaceuticals, Inc.}\textsuperscript{35} When faced with the question of whether a witness may proffer expert testimony, the trial judge assumes a “gatekeeping role”\textsuperscript{36} and must determine:

\begin{itemize}
\item \textsuperscript{31} LAMPE, \textit{supra} note 28; \textit{see also} Medical Marijuana and Cannabidiol Research Expansion Act, H.R. 8454, 117th Cong. (2022).
\item \textsuperscript{33} \textit{Id.}
\item \textsuperscript{34} \textit{See generally} Lira et al., \textit{supra} note 20, at 1976.
\item \textsuperscript{35} \textit{Daubert v. Merrell Dow Pharm., Inc.}, 509 U.S. 579, 582 (1993).
\item \textsuperscript{36} \textit{Id.} at 597.
\end{itemize}
Whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.\textsuperscript{37}

To help trial judges determine whether the scientific reasoning underlying the proposed expert testimony is valid, the Supreme Court enumerated “flexible” factors to be considered: (1) whether the scientific theory or technique “is based on generating hypotheses and testing them to see if they can be falsified”; (2) “whether the [scientific] theory or technique has been subjected to peer review and publication”; (3) whether there is a “known or potential rate of error” associated with the theory or technique; and (4) whether the theory or technique has gained “general acceptance” within the relevant scientific community.\textsuperscript{38}

The Supreme Court later recognized in *Kuhmo Tire Co. v. Carmichael* that all of these flexible factors may not apply to proffered expert testimony regarding non-hard sciences involving specialized or technical knowledge.\textsuperscript{39} For expert testimony regarding specialized or technical knowledge, the Supreme Court emphasized that trial judges’ gatekeeping responsibility is broad and not strictly limited to the *Daubert* factors.\textsuperscript{40} The admissibility focus remains, however, on ensuring that the expert testimony to be provided is based on reliable principles that are relevant and helpful to determining the facts at issue in the specific case where the testimony is to be proffered.\textsuperscript{41}

\textbf{B. The Science of Field Sobriety Testing to Detect Marijuana Impairment}

“The standardized field sobriety test was developed in the late 1970’s by the National Highway Traffic Safety Administration (NHTSA) in an effort to improve the fatality rate on highways due to drunk driving.”\textsuperscript{42} The standard field sobriety test consists of evaluating involuntary eye movements known

\textsuperscript{37} Id. at 592–93 (footnote omitted).

\textsuperscript{38} Id. at 593–94.

\textsuperscript{39} Kuhmo Tire Co. v. Carmichael, 526 U.S. 137, 141–42 (1999).

\textsuperscript{40} Id. at 150–51.

\textsuperscript{41} Id. at 152.

as nystagmus, walk and turn coordination, and balancing on one leg.\textsuperscript{43} While generally accepted as reliable for detecting when a driver is impaired by alcohol, as it was designed to do, the science regarding the standard field sobriety test’s ability to detect marijuana impairment varies greatly.\textsuperscript{44} The NHTSA itself recognizes that “available research does not support the development of such a psychomotor, behavioral, or cognitive test that would be practical and feasible for law enforcement use at this time.”\textsuperscript{45}

In one double-blind study, participants were told to smoke cigarettes containing either 0 grams, 0.813 grams (low dose), or 1.776 grams (high dose) of THC.\textsuperscript{46} Fifty-five minutes after smoking, each participant was screened by investigators using the standard field sobriety test.\textsuperscript{47} Eighty minutes after smoking, participants “drove” using a driving simulator calibrated to detect whether a driver appears to be impaired compared to novice, drug-free drivers that were part of a driver training program.\textsuperscript{48} One hundred and five minutes after smoking, investigators performed another standard field sobriety test on the participants.\textsuperscript{49}

Of the low dose participants identified as impaired based on the driving test, investigators correctly identified 88.5\% as impaired based on the standard field sobriety test administered at fifty-five minutes; however, investigators only correctly identified as unimpaired 38.5\% of the low dose participants that the driving simulation determined were not impaired.\textsuperscript{50} Investigators conducting the 105-minute field sobriety test correctly identified as impaired all of the low dose participants that the driving test determined were impaired; none of the low dose participants that were identified as not impaired on the driving test were correctly identified as unimpaired.\textsuperscript{51}

Of the high dose participants identified as impaired based on the driving test, investigators correctly identified 92\% as impaired based on the standard field sobriety test administered at fifty-five minutes; however, investigators


\textsuperscript{44} See Ginsburg, supra note 43, at 618; \textsc{Richard P. Compton}, \textsc{Nat’l Highway Traffic Safety Admin.}, DOT HS 812 440, \textsc{Marijuana-Impaired Driving—A Report to Congress} 3 (2017).

\textsuperscript{45} Compton, supra note 44, at 13.

\textsuperscript{46} Papafotiou, supra note 43, at 173. See generally Ginsburg, supra note 43, at 616.

\textsuperscript{47} Papafotiou, supra note 43, at 175.

\textsuperscript{48} \textit{Id.} at 174–75.

\textsuperscript{49} \textit{Id.} at 175.

\textsuperscript{50} \textit{Id.} at 176.

\textsuperscript{51} \textit{Id.}
only correctly identified as unimpaired a staggering low 15.4% of the high
dose participants identified as not impaired on the driving test.\(^{52}\) Investigators
cconducting the 105-minute field sobriety test correctly identified as impaired
84% of the high dose participants that were determined to be impaired on the
driving test; and 61.5% of the high dose participants that were identified as
not impaired on the driving test were correctly identified as unimpaired.\(^{53}\)
These results mean that, while field sobriety tests correctly identified
marijuana impaired drivers at least 84% of the time, the rate of false positives
is unacceptably high because field sobriety tests correctly identify
unimpaired drivers only zero to 61.5% of the time.\(^{54}\)

C. Admissibility of Field Sobriety Test Observations and
Results as Evidence of Marijuana Impairment

The residents of Massachusetts voted to legalize the recreational use of
marijuana in 2016.\(^{55}\) Under Massachusetts law, operating a motor vehicle
under the influence of marijuana is a criminal offense;\(^{56}\) the law does not
prescribe a specific blood concentration or other metric to aid judges or juries
in determining if a driver was impaired due to marijuana consumption.\(^{57}\)
“In a prosecution for operating while under the influence of marijuana, it is the
Commonwealth’s burden to prove beyond a reasonable doubt, in addition to
other elements of the offense, that a defendant’s consumption of marijuana
impair[ed] his or her ability to drive a motor vehicle safely.”\(^{58}\)

In *Commonwealth v. Gerhardt*, the Massachusetts Supreme Court
became the first state high court to address the admissibility of expert
evidence concerning a defendant’s performance during a field sobriety test
in a marijuana impaired driving prosecution.\(^{59}\)

Gerhardt was pulled over by the police for driving without rear lights on
at night.\(^{60}\) The police officer saw smoke inside the vehicle and smelled burnt

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\(^{52}\) *Id.*

\(^{53}\) *Id.*

\(^{54}\) *Id.; see also* Ginsburg, supra note 43, at 616–17.

\(^{55}\) *Massachusetts Question 4—Legalize Marijuana—Results: Approved*, N.Y. TIMES (Aug. 1,
legalize-marijuana.

\(^{56}\) *MASS. GEN. LAWS* ch. 90, § 24 (2013).

\(^{57}\) See id.


\(^{60}\) *Gerhardt*, 477 Mass. at 778.
marijuana during the stop.\textsuperscript{61} Gerhardt told police that he had smoked marijuana three hours earlier.\textsuperscript{62} The police then administered a roadside field sobriety test to Gerhardt.\textsuperscript{63} Though Gerhardt passed portions of the field sobriety test, the officer determined that Gerhardt failed the one-leg-stand test because he “put[] his foot down multiple times, and swayed.”\textsuperscript{64} The officer determined Gerhardt was under the influence of marijuana, and Gerhardt was subsequently charged with operating a motor vehicle while under the influence of drugs.\textsuperscript{65}

Prior to trial, Gerhardt filed a motion for a \textit{Daubert} hearing to challenge the admissibility of expert testimony related to his performance on the field sobriety test.\textsuperscript{66} Following the evidentiary hearing, the Massachusetts Supreme Court granted direct appellate review of the following questions related to the admissibility of the field sobriety test expert testimony in the context of marijuana impaired driving cases:

1. Whether police officers may testify to the administration and results of standard [FSTs] in prosecutions for [o]perating [u]nder the [i]nfluence of [m]arijuana as they do in [o]perating [u]nder the [i]nfluence of [a]lcohol prosecutions?

2. Are the effects of marijuana consumption sufficiently within the common knowledge and experience of a lay person, such that a non-expert witness may offer opinion evidence whether a person is ‘high’ on marijuana?

3. May a police officer, who has not been qualified as an expert witness, testify to the effects of marijuana on a person such as bloodshot eyes, lack of coordination and/or balance, reaction times, slow speech, paranoia, or relaxed responses[?]

4. May a juror rely on their own experience and common sense about the effects of marijuana as they may do in an [o]perating [u]nder the [i]nfluence of [a]lcohol prosecution?\textsuperscript{67}

Regarding the admissibility of expert testimony discussing the administration and results of field sobriety tests in marijuana impairment

\textsuperscript{61} \textit{Id.}
\textsuperscript{62} \textit{Id.}
\textsuperscript{63} \textit{Id. at 778–79.}
\textsuperscript{64} \textit{Id. at 779.}
\textsuperscript{65} \textit{Id.}
\textsuperscript{66} \textit{Id. at 777.}
\textsuperscript{67} \textit{Id.}
cases, the court first evaluated the reliability of the underlying science related to a field sobriety test’s ability to identify marijuana impairment. After evaluating numerous studies on the topic, the court determined that there is no scientific agreement on the reliability of field sobriety tests in the context of identifying marijuana impairment. The court found some researchers have recommended further development of field sobriety testing to make a marijuana impairment specific test. The court also found a similar lack of scientific consensus on the physical characteristics that indicate marijuana impairment.

The court thus recognized that the “unsettled state of the scientific research” means that field sobriety testing is not reliable as a “definitive test of [marijuana] impairment.” The court also recognized that “the word ‘test’ itself inadvertently may lend ‘an aura of scientific validity’” to expert testimony regarding field sobriety tests for marijuana impairment. Despite these concerns, the court determined that a driver’s performance on a field sobriety test is relevant to deciding if a driver was under the influence of marijuana, and “that it is not practicable to eliminate the concept of testing entirely from trial testimony.”

To balance these competing concerns of reliability and probative value, the court held that a police officer “may testify, as a lay witness, to his or her observations” during the field sobriety test. The court reasoned that lay jurors have experience and knowledge that marijuana can affect a driver’s coordination and concentration, and thus the officer’s observations may be admitted without qualifying the officer as an expert or submitting the testimony to a Daubert analysis. To safeguard the jury from accepting these observations as scientific proof of marijuana impairment, the court held that officers must refer to the field sobriety tests as “roadside assessments,” and judges must issue jury instructions that “[field sobriety tests] cannot be treated as scientific ‘tests’ of impairment” and that “evidence of performance on [field sobriety tests], alone, is not sufficient to support a finding that a defendant’s ability to drive safely was impaired due to the consumption of

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68 Id. at 781.
69 Id. at 782.
70 Id. at 781–82.
71 Id. at 786.
72 Id. at 783.
73 Id. at 784 (quoting United States v. Horn, 185 F. Supp. 2d 530, 559 (D. Md. 2002)).
74 Id. at 782.
75 Id. at 784.
76 Id. at 783.
77 Id. at 784.
marijuana . . .”78 Finally, police officers, as lay witnesses, cannot opine on whether a defendant was impaired by marijuana at the time of the incident.79

The Gerhardt court’s analysis is troubling for several reasons. First, after reviewing the relevant scientific data, the court determined that “[n]o such general knowledge exists, however, as to the physical or mental effects of marijuana consumption, which vary greatly amongst individuals” and that “no studies have concluded that any specific characteristics are routinely found in people who have used marijuana and were impaired.”80 Despite this lack of general knowledge and scientific consensus, the court concluded “that marijuana can cause impairment of skills necessary to driving, such as coordination, concentration, and the ability to divide one’s attention among multiple tasks, is within the common experience and knowledge of jurors.”81 Essentially, the court is saying that, while general knowledge does not exist and the science is inconclusive regarding the characteristics one would see in a person impaired by marijuana use, evidence obtained via a field sobriety test should be admissible as lay testimony because the characteristics that suggest marijuana impairment are common knowledge to lay jurors. If the science is inconclusive regarding behavioral characteristics of people impaired by marijuana, and a general knowledge of the effects of marijuana does not exist, it is illogical to conclude that the behavioral characteristics are within the common knowledge of lay jurors.

A more appropriate analysis is to permit the lay testimony of the officer’s observations so long as it is accompanied by expert testimony that will help the jury evaluate those observations under a proper framework. In Commonwealth v. Gause, the Pennsylvania Superior Court held that “[w]ithout expert testimony to explain a connection [between observations during a field sobriety test and marijuana impairment], if any, the jury was permitted to engage in speculation that the [observed behavior] indicates marijuana impairment, or, at the least, ingestion.”82 While I agree with the Gause court’s analysis that expert testimony is required to provide the jury with a framework within which it can evaluate an officer’s observations during a field sobriety test, the inherent unreliability of the science related to observable signs of marijuana impairment likely means that such expert testimony would not be admissible under Daubert.

Second, under a Daubert analysis, the Gerhardt court’s opinion that the police officer’s observations during a field sobriety test are probative of the

78 Id. at 785.
79 Id. at 787–88.
80 Id. at 786.
81 Id. at 784.
issue of marijuana impairment, and thus should be admissible,\textsuperscript{83} falls apart. The court spills considerable ink to make clear that there is no reliable science supporting the use of field sobriety tests to evaluate marijuana impairment.\textsuperscript{84} The fact that the court was able to review so many scientific studies on the subject makes clear that this is an area of specialized knowledge that should be subject to \textit{Daubert} scrutiny. Since there is “no such general knowledge”\textsuperscript{85} or general consensus among the relevant scientific community as to the physical and mental effects of marijuana on an individual, any observations of a driver’s behavior during a field sobriety test are inherently not probative of whether that driver was impaired by marijuana. The \textit{Gerhardt} court skirts the inherent scrutiny of the reliability of specialized knowledge like a field sobriety test’s ability to evaluate marijuana impairment that would come with a \textit{Daubert} analysis by categorizing such evidence as lay opinion testimony as opposed to expert testimony.

Finally, in addition to not being probative of whether a driver was impaired by marijuana, the admission of unreliable field sobriety test observation evidence is also unfairly prejudicial to the defendant. As the court notes, the word “test” implies “an aura of scientific validity.”\textsuperscript{86} Jurors will know that the officer is testifying to what he observed during a field sobriety test regardless of the court’s instruction that officer’s instead use the term “roadside assessments.” This raises the danger that juries will transpose the reliability of field sobriety tests to determine alcohol impairment to the use of that same test to determine marijuana impairment, even though the court recognized that no such reliability exists in the marijuana context. Additionally, the court’s decision to include jury instructions that such field sobriety tests are not scientific tests themselves and are insufficient to establish that a driver was impaired by marijuana\textsuperscript{87} is likely to be ineffective as such instruction is typically given at the end of trial when jurors have already begun to formulate opinions.

\textit{D. The Science of THC Blood Concentrations to Detect Marijuana Impairment}

In its 2017 Report to Congress, the NHTSA reported that, while there is evidence that marijuana can impair the ability to drive safely, current research “does not show a relationship between THC levels [in the blood] and

\textsuperscript{83} \textit{Gerhardt}, 477 Mass. at 783.
\textsuperscript{84} \textit{See generally id.} at 780–85.
\textsuperscript{85} \textit{Id.} at 786.
\textsuperscript{86} \textit{Id.} at 784.
\textsuperscript{87} \textit{Id.} at 787.
The report further states that “[w]hile fewer studies have examined the relationship between THC blood levels and degree of impairment, in those studies that have been conducted the consistent finding is that the level of THC in the blood and the degree of impairment do not appear to be closely related.”

Similarly, a 2022 literature review performed by researchers at the University of Sydney found no correlation between blood THC levels and impairment. After reviewing twenty-eight published studies on this issue, the researchers determined that (1) the science attempting to establish a link between THC blood level and impairment is limited; and (2) the existing studies demonstrate that blood THC levels are “relatively poor indicators of cannabis-induced impairment.”

E. Admissibility of THC Blood Concentration as Evidence of Marijuana Impairment

In 2018, Michigan citizens voted to legalize the recreational use of marijuana by anyone twenty-one years of age or older; however, it is still a criminal violation to operate a motor vehicle while under the influence of a controlled substance like marijuana. “To prove a person was ‘under the influence’ of [marijuana] . . . the prosecution ‘must prove that defendant’s ability to drive was substantially and materially affected by consumption’ of [marijuana].”

In People v. Bowden, the Michigan First District Court of Appeals considered whether a witness who qualified as a Drug Recognition Expert could offer an expert opinion that the defendant was impaired while driving because of the presence of THC in the driver’s blood sample collected following a traffic stop.
In *Bowden*, the defendant was stopped for a broken headlight. The officer conducting the stop had received training in Drug Recognition Evaluation (DRE) protocol, a “totality of the circumstances” protocol to identify whether someone is under the influence of drugs or alcohol. The protocol is comprised of field sobriety testing followed by a confirmatory laboratory toxicology test for the presence of a specific drug. While the officer did not observe the defendant driving in a manner that suggested impairment, the officer smelled burnt marijuana and observed that the defendant had bloodshot eyes during the stop. Upon questioning, the defendant admitted to smoking marijuana thirty minutes before the stop and self-rated her impairment level at a three on a scale of one to ten. The defendant was then taken to a hospital where her blood was drawn pursuant to DRE protocol. The toxicology report confirmed the presence of THC in the defendant’s blood, and she was subsequently arrested for operating a motor vehicle while intoxicated.

The State moved to qualify the officer as a Drug Recognition Expert that could provide an expert opinion as to whether the defendant was impaired by marijuana while operating the vehicle. The State cited numerous studies in support of its position that the DRE protocol relied upon by the officer is scientifically valid and can be applied to determine whether the defendant was impaired by marijuana. The court found that:

[While these studies] demonstrated the DRE protocol’s level of accuracy with respect to determining whether a particular type of substance was present in a person’s blood, . . . neither of the submitted reports purported to even address the question of how particular levels of marijuana [in the blood] impacted a person’s ability to drive or rendered a person “impaired.”

The court recognized that the determination of impairment was solely in the subjective opinion of the officer based on the DRE protocols, and the DRE protocols had not been sufficiently tested “to demonstrate the accuracy

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96 Id. at *2.
97 See id. at *3–4.
98 Id.
99 Id. at *2.
100 Id. at *2–3.
101 Id. at *3.
102 See id.
103 Id.
104 See id. at *6–15.
105 Id. at *21.
and validity of reaching such a conclusion on a person’s level of impairment due to marijuana.”\textsuperscript{106} The court ultimately found that the prosecution “failed to meet its burden to establish the reliability, and thus the admissibility, of the proposed expert testimony” as to the defendant’s impairment under \textit{Daubert}.\textsuperscript{107}

The \textit{Bowden} court correctly decided to exclude expert testimony that a blood test confirming the presence of THC indicates impairment. The court’s nuanced opinion makes clear that under \textit{Daubert} the underlying scientific, technical, or specialized knowledge must be derived from sound methodology that need not only be valid, but also appropriate to “assist the trier of fact to . . . determine a fact in issue.”\textsuperscript{108} Here, while the court concluded that the scientific methodology for determining the concentration of THC in a person’s blood is valid, that evidence will not assist a jury in determining whether a defendant was impaired while driving because the science has not been developed to create a reliable link between THC blood concentration and impairment.

This finding also undermines the credibility of state legislatures enacting per se blood THC limits, similar to the .08 percent blood alcohol concentration limit for drunk driving, to detect marijuana impaired driving. Numerous states currently have such per se limits included in their marijuana impaired driving laws, including Washington, Nevada, Montana, Illinois, and Ohio.\textsuperscript{109} With a non-existent link between blood THC concentrations and actual impairment, it makes little sense to use per se limits to enforce laws intended to prevent marijuana impaired driving.\textsuperscript{110} Such per se laws unacceptably increase the risk that a non-impaired driver who had previously used marijuana, and thus still had THC in their blood stream, will be convicted of marijuana impaired driving.

\textbf{F. Where Do We Go from Here?}

The science underlying field sobriety and blood THC concentration tests’ ability to determine whether a particular person is impaired is unreliable for the reasons set forth above. This unreliability should lead to exclusion of expert testimony regarding observations from a field sobriety test and results of a toxicology test for marijuana impairment because there is no reliable connection between these evidences and marijuana impairment.

\textsuperscript{106} \textit{Id.} at *21–22.

\textsuperscript{107} \textit{Id.} at *24.


\textsuperscript{110} See McCartney et al., \textit{supra} note 90, at 8.
As Florida moves toward legalizing marijuana for recreational use, the courts must constantly consider the reliability of the evolving science underlying field sobriety testing and THC toxicology testing’s ability to detect marijuana impairment. At this time, the current state of the science requires exclusion of expert testimony regarding that evidence.

With that said, Florida values road safety, and ensuring that drivers impaired by marijuana use are taken off the roads is necessary to obtain that objective.\(^\text{111}\) To ensure the safety of all on the road, it is imperative that the legal system is able to prosecute and punish those who drive impaired by marijuana similar to drunk driving offenders. But, are Florida’s courts’ hands tied when it comes to prosecution of marijuana impaired driving cases because of the unreliability of field sobriety and blood toxicology tests to determine marijuana impairment?

Exclusion of expert testimony regarding field sobriety test observations and blood THC concentrations certainly makes marijuana impaired prosecutions harder on the state; however, field sobriety testing and blood testing are not required for a jury to find beyond a reasonable doubt that a driver was impaired by marijuana. For example, a police officer could observe a vehicle driving erratically; notice smoke billowing from the windows of the vehicle; smell burnt marijuana upon approaching the car; and see a joint in the driver’s hand. All of this information in totality could reasonably lead a jury to determine beyond a reasonable doubt that the driver of this vehicle was impaired by marijuana while driving.\(^\text{112}\)

Florida courts should wait for the science to develop regarding the reliability of field sobriety tests and blood toxicology evidence to indicate marijuana impairment prior to admitting expert testimony on those issues in marijuana impaired driving prosecutions. There are currently numerous devices in development designed to provide reliable roadside testing for marijuana impairment similar to the breathalyzer device used to detect alcohol impairment. Researchers are currently studying the effectiveness and reliability of a portable imaging device that may be able to detect cannabis impairment in real time using functional near-infrared spectroscopy to measure brain activity.\(^\text{113}\) Researchers are also studying the reliability of

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111 Drive Baked, Get Busted, FLA. HIGHWAY SAFETY & MOTOR VEHICLES, https://www.flhsmv.gov/drivebakedgetbusted/ (last visited Mar. 21, 2023) (Florida’s anti-marijuana impaired driving public service campaign is titled “Drive Baked, Get Busted.”).

112 See, e.g., Commonwealth v. Gause, 164 A.3d 532, 538 (Pa. Super. Ct. 2017) (“[T]he question of whether expert testimony is necessary in [marijuana impaired driving] cases ‘must be evaluated on a case-by-case basis, taking into account not just the specific drug at issue . . . but also the nature and overall strength of the [state’s] evidence[,]’” (quoting Commonwealth v. Griffith, 32 A.3d 1231, 1239 (Pa. 2011))).

testing active THC blood concentrations through roadside saliva testing to determine impairment. The science underlying these developing roadside tests may one day prove to be reliable and helpful to juries such that their results will be readily admitted in court as expert evidence of marijuana impairment. However, Florida courts will need to continuously evaluate the development of these devices to ensure that evidence derived from such sources is not put before the jury until it is shown to be reliable and applicable to determining whether a driver was impaired by marijuana.

For now, allowing unreliable field sobriety tests and blood toxicology report information to influence the jury before it is shown to be reliable increases the unacceptable risk that the state will criminally punish innocent drivers. In the words of William Blackstone, “for the law holds, it is better that ten guilty persons escape, than that one innocent suffer.”

IV. CONCLUSION

Current methodology to assess whether a driver is impaired by marijuana is unreliable and should not be admitted by Florida courts in prosecutions for marijuana impaired driving. The science underlying field sobriety and marijuana blood toxicology testing to identify impairment has not been shown to be reliable under a Daubert analysis. While the issue of marijuana impaired driving is likely to become a much bigger issue in Florida if marijuana is legalized for recreational use in the coming years, Florida judges must effectively execute their gatekeeping role and exclude such scientific and behavioral evidence from trial until the underlying science is proven to be reliable.

There are promising advances in marijuana impairment detection underway. Researchers are currently developing real time methodologies such as oral saliva tests, portable brain imaging devices, and revamped field sobriety tests designed specifically to identify marijuana impairment. Additionally, federal agencies like the NHTSA are continuing to research additional ways in which marijuana impairment can be reliably detected. I recommend that Congress and state legislatures, including Florida, continue to fund studies that will allow researchers to develop effective and reliable methodologies to detect marijuana impairment in drivers.

It took the death of thirteen-year-old Cari Lightner and the subsequent creation of MADD for the federal and state governments to crack down on drunk driving. I hope that we can avoid a similarly tragic call to action for

115 4 WILLIAM BLACKSTONE, COMMENTARIES *352.
marijuana impaired driving by funding additional research into reliable marijuana impairment identification methods.