

Medical Marijuana and DWIC: Medical and Legal Considerations

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Driving while impaired by cannabis (DWIC) is not a new issue. However, in the wake of the current marijuana revival, in which patients have more access than at any time in recent history, the issue of DWIC is rapidly coming to the forefront. As health care providers increasingly care for patients who may be using medical cannabis, it is important to understand the legal and medical considerations surrounding DWIC.

Legal Considerations

All US states and the federal government have laws prohibiting DWIC. As with most things in the cannabis sector, the laws addressing DWIC differ widely between jurisdictions.

Broadly speaking, regulations regarding DWIC can be divided into 4 categories:

1. Zero tolerance: Driving with any detectable amount of delta-9-tetrahydrocannabinol (THC), the primary intoxicating compound in cannabis, or its metabolites, in the body is a criminal act. Twelve states have zero tolerance laws.¹
2. Per se: This law prohibits driving with a detectable amount of THC that exceeds a defined legal limit. Six states have per se laws, although the legal limits vary between them, from 1 to 5 ng/mL.^{1,2}
3. Driving under the influence of drugs (DUID) regulations: These regulations prohibit driving while actually impaired by THC. Thirty-two states and the federal government have adopted DUID laws.¹
4. Reasonable inference: This is a rebuttable inference of criminally sufficient impairment if a driver's blood contains THC exceeding 5 ng/mL. Only Colorado has adopted reasonable inference regulations.¹

Before discussing the efficacy of these various regulatory approaches, a threshold issue to consider is whether cannabis use actually functionally impairs driving ability. Surprisingly, this issue is not settled. According to Sewell et al. "most marijuana-intoxicated drivers show only modest impairments on actual road tests. Experienced smokers who drive on a set course show almost no functional impairment under the influence of marijuana, except when it is combined with alcohol."³ Unlike alcohol, which causes predictable functional impairment among all drivers, cannabis does not impair all drivers, nor does it impair all drivers equally.⁴⁻¹¹ A National Highway Traffic Safety Administration report submitted to Congress indicated "Subjects dosed on marijuana showed

reduced mean speeds, increased time driving below the speed limit and increased following distance during a car following task."¹² This and other studies reveal that "after smoking marijuana, subjects in most of the simulator and instrumented vehicle studies on marijuana and driving typically drive slower, follow other cars at greater distances, and take fewer risks than when sober."¹²

THC Blood Levels Are Insufficient to Measure Impairment

Because of the complex ways in which cannabis interacts in the body, it affects individuals differently based on a number of factors.¹³ Conceptually, this means an experienced cannabis user may not be impaired at all by cannabis use, whereas an inexperienced user may be impaired by using a relatively small amount. Evidence shows that not all drivers with THC in their blood plasma, even at per se impairment levels, are functionally impaired.^{14,15} Teri Moore and Adrian T. Moore, PhD, stated that "Unlike alcohol, which is 'hydrophilic,' cannabis is 'lipophilic,' meaning that it is stored in the fatty tissues of the body. This characteristic means that cannabis compounds, including the psychoactive THC, store and are detectable

long term, up to a month or longer of abstinence, as THC leaches into the bloodstream from fatty tissues. Blood plasma levels and impairment vary greatly in subjects given the same dose."¹⁶

Also problematic is the converse, namely, that not all impaired drivers test positive for THC. This is due to the fact that peak impairment, which typically occurs 90 minutes after smoking, coincides with an 80% drop in THC levels in blood plasma. Thus, low THC levels may not be a reliable indicator of recent cannabis use.^{3,6,17-20} In other words, per se THC blood levels do not track with impairment. This means that states that rely on per se levels are likely to release drivers with below per se levels who are still impaired.¹⁶

Recent advances in other testing methods, including a breathalyzer developed by Hound Labs, Inc., claim the ability to determine if an individual has smoked THC in the past 2 to 3 hours. That system collects 5 minutes of exhalation onto a silicon bead module, dissolves it in pure ethyl alcohol, and sends it to a fluorescent-based chemical assay for analysis. Readout is in picograms/liter of breath. Although this may be a useful tool for law enforcement, it still does not prove impairment, and no state laws currently set limits for THC on the breath or use a time-based

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determination to confirm impairment. Colorado, as the first state to legalize cannabis for recreational use, defines DUI for an individual when they are “substantially incapable, either mentally or physically, or both mentally and physically, to exercise clear judgment, sufficient physical control, or due care in the safe operation of a vehicle.”²¹ This is a useful definition of impairment, but it has no correlation to specific quantities consumed or how recent the consumption occurred, and fully supports the argument that impairment testing is the most useful method for determining THC influence.²¹

For these reasons, the notion that impairment can be assumed or not based solely on specific concentrations of THC or its metabolites in a driver’s blood or urine is plainly wrong. As a result of an extensive study, the American Automobile Association Foundation for Traffic Safety concluded that, “a quantitative threshold for per se laws for THC following cannabis use cannot be scientifically supported.”²² Furthermore, postmortem analysis for THC has been found to have a fatal flaw. After death, the body begins to break down and the cumulative THC stored in fat cells is released into body. For this reason, every postmortem analysis of THC shows hyper-elevated levels of THC and are meaningless for developing DWIC policy generally, and per se limits specifically.²³

Criminalizing Nonimpaired Drivers

Together, current evidence suggests that regulatory approaches to DWIC should be geared toward removing impaired drivers from the road while not unnecessarily criminalizing nonimpaired drivers who use cannabis legally. Zero tolerance and per se regulatory approaches are ill-suited to supporting this policy goal, as they are

not reliable measures.¹¹ Additionally, both approaches have a great capacity to criminalize individuals who are not impaired, but who have THC or its metabolites in their blood or urine. In fact, both approaches almost certainly violate the Due Process Clause of the Fourteenth Amendment of the US Constitution because they “subject drivers to criminal prosecutions without any real culpability. . . .”²⁴ And, although Colorado’s permissible inference approach does not violate the Due Process Clause, the fact that it places the burden on the driver to prove that he or she was not impaired is overly burdensome (if not philosophically impossible) and unsupported by relevant data.

On the other hand, the DUID approach, which does not rely exclusively on blood or urine tests to determine impairment, is best suited for removing impaired drivers from the road while ensuring that the Constitutional rights and arrest records of unimpaired drivers remain intact. The problem posed by the DUID approach is determining impairment by the use of nonqualitative field sobriety tests (FSTs). Although training can greatly improve one’s skill at judging impairment in the field, doing so is more of an art than a science.

Because FSTs evaluate divided attention skills, they provide fairly accurate assessments of driving impairment, no matter what substance the driver may have ingested. In the case of cannabis, a driver’s failure to perform an FST as demonstrated, combined with a THC-positive reading on a roadside testing device, provides adequate reasonable suspicion for further investigation or, more typically, probable cause for DUI arrest.¹⁷

This description of FST may be overly optimistic. The most important question is whether there is objective data supporting the same (or similar) level of confidence for FST in determining

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cannabis impairment as there is for FST in determining alcohol impairment. The answer appears to be “no,” or at least, “not always,” which is why FSTs in development specifically measure symptoms of cannabis intoxication, such as slow reaction time, misperception of time passage, and inability to handle divided attention tasks.^{11,25} In short, there is currently no parity between alcohol and cannabis intoxication, at least in terms of reliable methods for determining functional driving impairment. Whereas alcohol impairment can be reliably determined by the driver’s blood alcohol levels and/or FST, the same is not true for cannabis.

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— *Jaban Marcu, PhD*

Future Implications

Currently, there is sparse and contradictory evidence regarding THC concentrations and their correlation with cannabis intoxication and driving habits.²⁶ We conclude that impairment is the issue, not the concentration of THC and its metabolites in the human body. The use of THC concentrations alone, or the presence of metabolites in any fluid sample, to equate to an acute cannabis intoxication will continue to result in inappropriate arrest, prosecution, and civil liability.²⁶ Although far from perfect, field sobriety testing for impairment is currently the best and fairest option for determining whether a driver (or worker in the workplace) can safely navigate the road or be safely productive in the workplace.^{3,11,18} To this end, the DUID regulatory approach, which focuses on impairment rather than the presence of THC in the body, is the most appropriate one to achieve the dual policy goals of removing impaired drivers from the road, while not criminalizing nonintoxicated drivers who lawfully use cannabis.

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