E37 **Measuring Nothing: Limitations of Quantitative Confirmation Analysis and the National Trend Toward Zero Tolerant Per Se THC Limits in Drivers**

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After attending this presentation, attendees will appreciate the need for accurate and precise toxicology confirmation analysis in citizens accused of driving with the presence of various levels or under the influence of marijuana.

This presentation will impact the forensic science community by highlighting how confirmatory testing and its limitations, both qualitatively and quantitatively, need to be understood in the forensic community. These limitations will be illustrated by real-life examples of the unjust consequences which can occur when reliable methods for analysis and reporting are not followed.

Many states have enacted laws making it illegal to drive with any amount of marijuana or its metabolites in the body. The recent trend to equate guilt based on either per se levels or even zero tolerance limits for marijuana in the body is based on incorrect assumptions. Those assumptions are that a driver is actually impaired and unsafe to other drivers on the roadway based on the presence of a certain amount or even "any amount" in the driver's blood. Under per se marijuana laws, a driver may be convicted even when a driver is not actually impaired as a result of ingesting marijuana. This raises two issues: (1) does science support that all drivers are impaired at a certain level?; and, (2) can these low or zero per se levels actually be determined with scientific reliability?

To complicate matters, eighteen states reformed or are attempting to reform marijuana laws through new legislation or through the initiative process (like California in 1996 and Colorado in 2012) to make ingestion of THC legal so long as there is a therapeutic basis as determined by a licensed physician. Most recently, the citizens of the states of Colorado and Washington voted to legalize marijuana consumption in persons over the age of 21 with no therapeutic reason nor any physician supervision required.

The Executive Branch of the Federal Government in its 2012 National Drug Control Strategy Report recommends the imposition of zero tolerant per se limits for marijuana across the country despite various state's law.[1] As of the date of this abstract, ten states (Arizona, Georgia, Indiana, Delaware, Iowa, Rhode Island, Wisconsin, Utah, Michigan, and Oklahoma) have enacted zero tolerance laws for cannabis, with Oklahoma being the most recent. Yet, only Arizona and Rhode Island have made laws to exempt medical marijuana patients from prosecution under these per se statutes unless actual impairment is proven. The Michigan Supreme Court followed the logic of Arizona and Rhode Island law makers and authored a unanimous decision *People vs. Koon.*[2] In *Koon*, the Court held that drivers who fall under the Michigan Medical Marijuana Act may not be criminally convicted of being "under the influence" unless evidence is available that the driver is under the influence with reliable testimony.[3]

If citizens are being prosecuted for driving under the influence of marijuana based on toxicological analysis, then the science used to convict must be reliable. Limits of detection and limits of quantification remain at the crux of fair per se THC laws. Validated methods including the analysis of systematic and random uncertainties, are required to express a positive result with reasonable confidence. Absent reliable proven methods, we cannot be confident that reporting a THC amount is scientifically reliable.

References:
1. http://www.whitehouse.gov/sites/default/files/ondcp/2012_ndcs.pdf
2. Docket No. 145259, Decided May 21, 2013
3. MCL 333.26421 et seq.

Per Se THC Limits, Zero Tolerance, Unconfirmed Results