State Bar of Michigan Marijuana Law Section 4th Annual Conference

Litigating Driving Under the Influence of Marijuana Cases
Barton W. Morris, Jr.
October 26, 2019
JW Marriot - Grand Rapids

THC and Driving

- THC is the most commonly identified intoxicant in drivers in the US

- The legalization of marijuana in Michigan will result in more drivers with THC in the body

Current Law MCL 257.625

- (1) A person shall not operate a vehicle while under the influence by a controlled substance - marijuana

- (8) A person shall not operate a vehicle if the person has in their body any amount of a schedule one controlled substance - marijuana

People v. Koon (2013)

The MMMA prohibits the prosecution of registered patients who internally possess marijuana unless they are operating a vehicle while “under the influence”

Michigan Regulation and Taxation of Marijuana Act

Protects the internal possession of marijuana for adults over the age of 21

This act does not authorize the operation of a motor vehicle while under the influence of marijuana

Under the Influence

- The person's ability to operate a vehicle in a normal manner was **substantially** lessened due to the consumption of marijuana.

- Just because a person consumed marijuana, no matter how long before driving, does not by itself prove a person is under the influence

- The test is whether, because of consuming the marijuana the defendant's mental or physical condition was **significantly** affected and they were no longer able to operate a vehicle in a normal manner

Unable to Drive Normally

- People v. Walters (160 MA 396) - the prosecution must establish that the accused was unable to drive normally.

Typical Evidence in a DUI Marijuana Case

- Observations of Driving and the Accused
- Observations of Driver and Performance on Field Sobriety Tests
- Results of the Chemical Test

Observations of Driving and the Accused

Review of Research on the Effects of Marijuana use on Driving

- Cannabis use impairs both attention and psychomotor performance (Ramaekers et al., 2004). Additionally, consumption can cause **drowsiness and lethargy, slow reaction times, and alter time perception**, which can lead a driver to swerve or to follow other cars too closely (Ramaekers et al., 2004)

- Drivers subjectively under the influence of cannabis are **generally aware that they are impaired and adjust their driving accordingly by taking fewer risks and acting less aggressively**, there is evidence they may *over*estimate their impairment, which is the opposite reaction of those under the influence of alcohol (Sexton et al, 2000; Sewell et al, 2009)

Review of Research on the Effects of Marijuana use on Driving

- **slow reaction time**, for example, responding to unexpected events - emergency braking (Casswell, 1977; Smiley et. al., 1981; Lenné, M.G., et al., 2010);
- cause problems with road tracking - lane position variability (Smiley, et. al., 1981; Robbe and O'Hanlon, 1993; Ramaekers, 2004);
- **decrease divided attention** - target recognition (Smiley, 1999; Menetrey, et. al., 2005), impair cognitive performance - attention maintenance (Ramaekers, et. al., 2004); and impair executive functions - route planning, decision making, and risk taking (Dott, 1972, Ellingstad et al, 1973; Menetrey, et al., 2005).

Observations of Driver and Performance on Field Sobriety Tests

Standardized Field Sobriety Tests (SFST)

- Three tests: HGN, WAT, OLS
- Validated by three NHTSA studies:
  - Colorado 1993
  - Florida 1997
  - San Diego 1998

Declues 2016: Examining Delta 9 THC and SFST Performance

[t]here was no correlation of number of clues present with the concentration of THC found in the blood.

Shiner, Schectman (2005): Drug ID Performance based on observable signs

- Based on the subject's observable performance on the HGN, W&T and OLS tests, officers falsely identified 57 % of the time, subjects to be under the influence of drugs
- The officers correctly identified cannabis impairment in 31% of the cannabis impaired subjects
- "The association between drug ingestion and identification of the specific category was not very high, with sensitivities ranging from a low of 10% for amphetamine to a high of 49% for cannabis. Based on both sensitivity and specificity, drug identification was best for alprazolam impairment, noticeably poorer for cannabis and codeine impairment, and no better than chance for amphetamine impairment."

Papafotiou, Carter (2005): Sensitivity of SFST on Marijuana Intoxication

In that study, the SFSTs were found to be moderately associated with the level of blood Δ9-THC, with just under 50% of subjects in the high-THC condition identified as impaired at five minutes and 55 minutes after cannabis intake. When the HMJ test was added, the detection rate increased by 10%.

Bosker (2011): Study to assess SFST and Cannabis Intoxication in Heavy Users

- Field Sobriety Tests were not sufficiently sensitive to accurately identify subjects following their ingestion of doses of oral synthetic THC
- Post dosing performance was assessed on the HGN, W&T and OLS
- The analysis of SFST did not reveal any significant effects of dronabinol or cannabis use history
- Absence of any observable impairment in SFST appears to indicate that these tests are not sensitive to the impairing effects of THC

Downey (2012): Detecting Cannabis Impairment with SFST with and without alcohol

The relative sensitivity of the SFST in detecting drug usage is limited and more accurate when taking into consideration the observation of HMJ

Advanced Roadside Impaired Driving Enforcement (A.R.I.D.E.)

NHTSA
www.nhtsa.gov

Revised:10/2015

Advanced Roadside Impairment Evaluation (ARIDE)

- Rely upon SFST
- Added two more tests
  - LOC
  - Modified Romberg

Effects of Cannabis

People under the influence of Cannabis may display:

- Brief attention span
- Divided attention impairment

General Indicators

- Euphoria
- Bloodshot eyes
- Odor of marijuana
- Marijuana debris in the mouth
- Body tremors
- Increased appetite

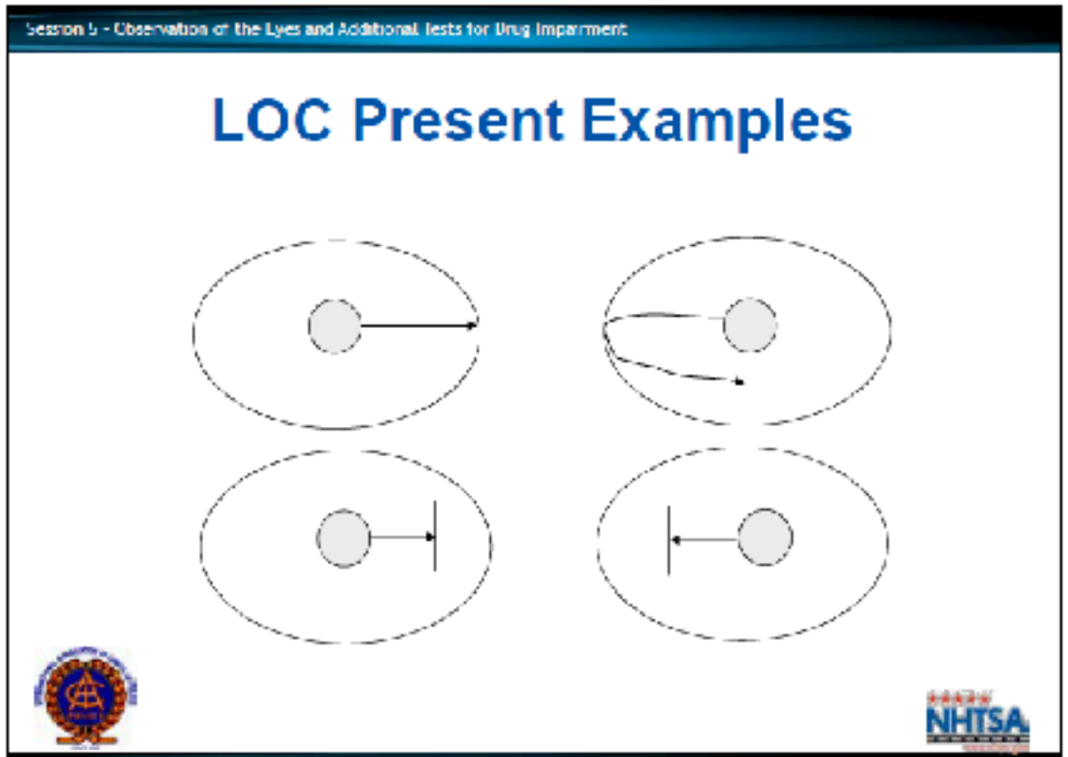
General Indicators

- Relaxed inhibitions
- Disoriented
- Possible paranoia
- Altered time and distance perception
- Eyelid tremors
- Sedation

Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal *	Dilated	Dilated	Normal	Constricted	Normal **	Dilated ***

**Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils*
***Normal (average range) but may be dilated*
****Dilated, may be normal (average range)*



Left Eye Unable to Converge

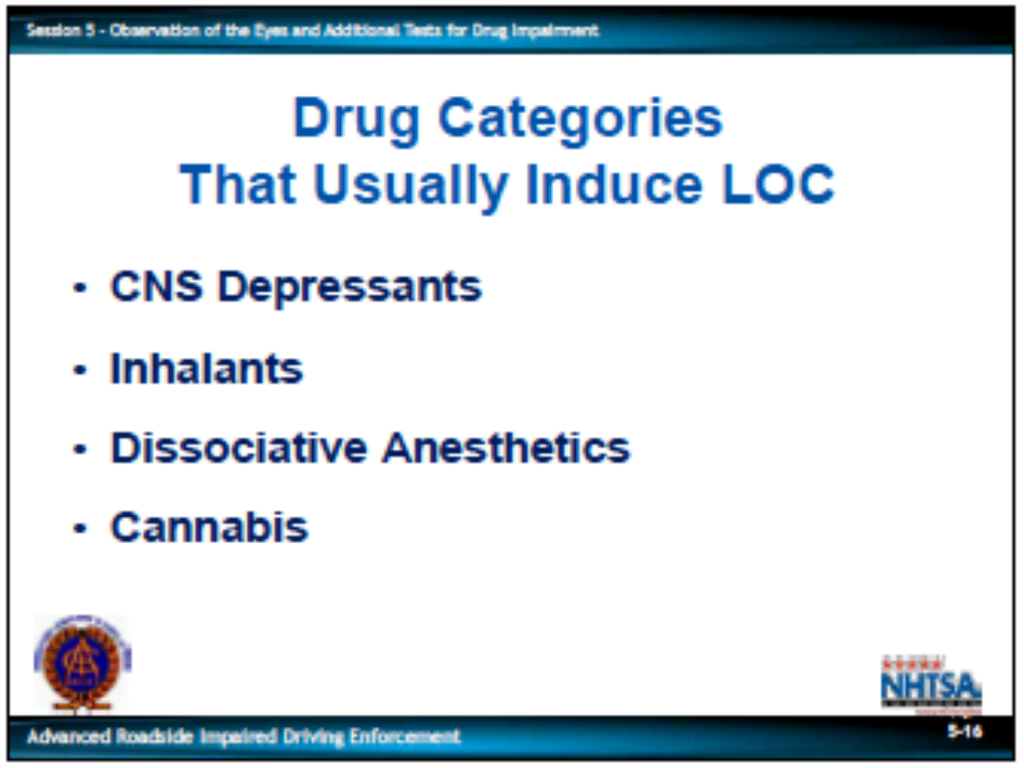
- Both eyes began to converge, however the left eye bounced down and back out

Both Eyes Unable to Converge

- Both eyes began to converge, however they both stopped before the convergence was completed.

There are no validated clues associated with the LOC test, the officer should note all observations associated with this test.

- The law enforcement officer should note whether or not convergence is present and document their observations as to the movement of the eyes during this test.



The following drug categories usually will induce Lack of Convergence:

- CNS Depressants
- Inhalants
- Dissociative Anesthetics
- Cannabis

Drug Evaluation and Classification Training

“The Drug Recognition Expert School"

January 2011 Edition

Student Manual

12 Step Protocol

1. Breath Alcohol Test
2. Arresting Officer Interview
3. preliminary Evaluation and First Pulse
4. Eye Examinations
5. Divided Attention Tests
6. Vital Signs and Second Pulse
7. Darkroom Examinations
8. Check Muscle Tone
9. Check Injection Sites
10. Interrogation
11. Opinion of Evaluator
12. Toxicological Exam

Expected Results of a DRE Examination - Cannabis

When a person under the influence of Cannabis is evaluated by a DRE, the following results can generally be expected:

Horizontal Gaze Nystagmus - none

Vertical Gaze Nystagmus - none

Lack of Convergence - present

Pupil size - dilated, but possibly normal. Rebound dilation may be observed.

Reaction to light - normal

Pulse rate - up

Blood Pressure - up

Temperature - normal

Hartman 2016: DRE Exam Characteristics of Cannabis Impairment

The most reliable impairment indicators included elevated pulse, dilated pupils, LOC, rebound dilation, and documented impairment in 2 of 4 psychophysical tasks. Blood specimens for toxicology should be collected as early as possible, as measured concentrations are significantly related to collection time.

Declues 2018: THC Concentrations in Drivers compared to DRE Evaluations

- There is no correlation found between THC in blood and pulse rates subjects with THC in their system had a high blood pressure only 50% of the time and therefore no correlation was established

- Rebound dilation and hippus are less reliable signs for THC.

- The delay in DRE evaluations is likely causing officers to miss signs of impairment.

Results of the Chemical Test

REPORT FROM THE

IMPAIRED DRIVING SAFETY COMMISSION

MARCH 2019

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Senior Executive Management Assistant, Michigan State Police, Field Operations Bureau

Michigan Impaired Driving Safety Commission

Because there is a poor correlation between THC bodily content and driving impairment, the Commission recommends against the establishment of a threshold concentration of THC for determining driver impairment

Michigan State Police Laboratory Report

STATE OF MICHIGAN
DEPARTMENT OF STATE POLICE
FORENSIC SCIENCE DIVISION
Lansing Laboratory
7320 N. Canal Rd
Lansing, MI 48913
Phone: (517) 322-6500 Fax: (517) 322-5508

SUPPLEMENTAL REPORT

Laboratory No. :
Delivered By : First Class Mail
Agency : Michigan Department of State Police
6301 Red Arrow Highway
Bridgman, MI 49106
Incident Number :

Record No. : 2
Date Received : July 14, 2011
Time Received : 9:00 a.m.
File Class : 5400-2
Date Completed : November 16, 2011

Subject:

Evidence Received:

Container #1 — 1 - Sealed Michigan State Police Specimen kit (Tri-Tech) containing:
Item #1 — 1 - 10 mL grey top tube with approx. 7 mL blood
Item #2 — 1 - 10 mL grey top tube with approx. 6 mL blood

Detected (quantified):

THC 3 ng/mL
THC-COOH 10 ng/mL

The sample was screened by immunoassay for amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine metabolites, methadone and opiates.

Cannabinoid results confirmed by GC/MS.

Samantha Beauchamp
Forensic Scientist
Toxicology Unit

Instrumental output and data, library match for specific data, calibrator and control data are case specific and may not be applicable in every case.
The relevant supporting data upon which the expert opinion or inference was made are available for review/inspection.

THC = Tetrahydrocannabinol
main psychoactive constituent of the cannabis plant

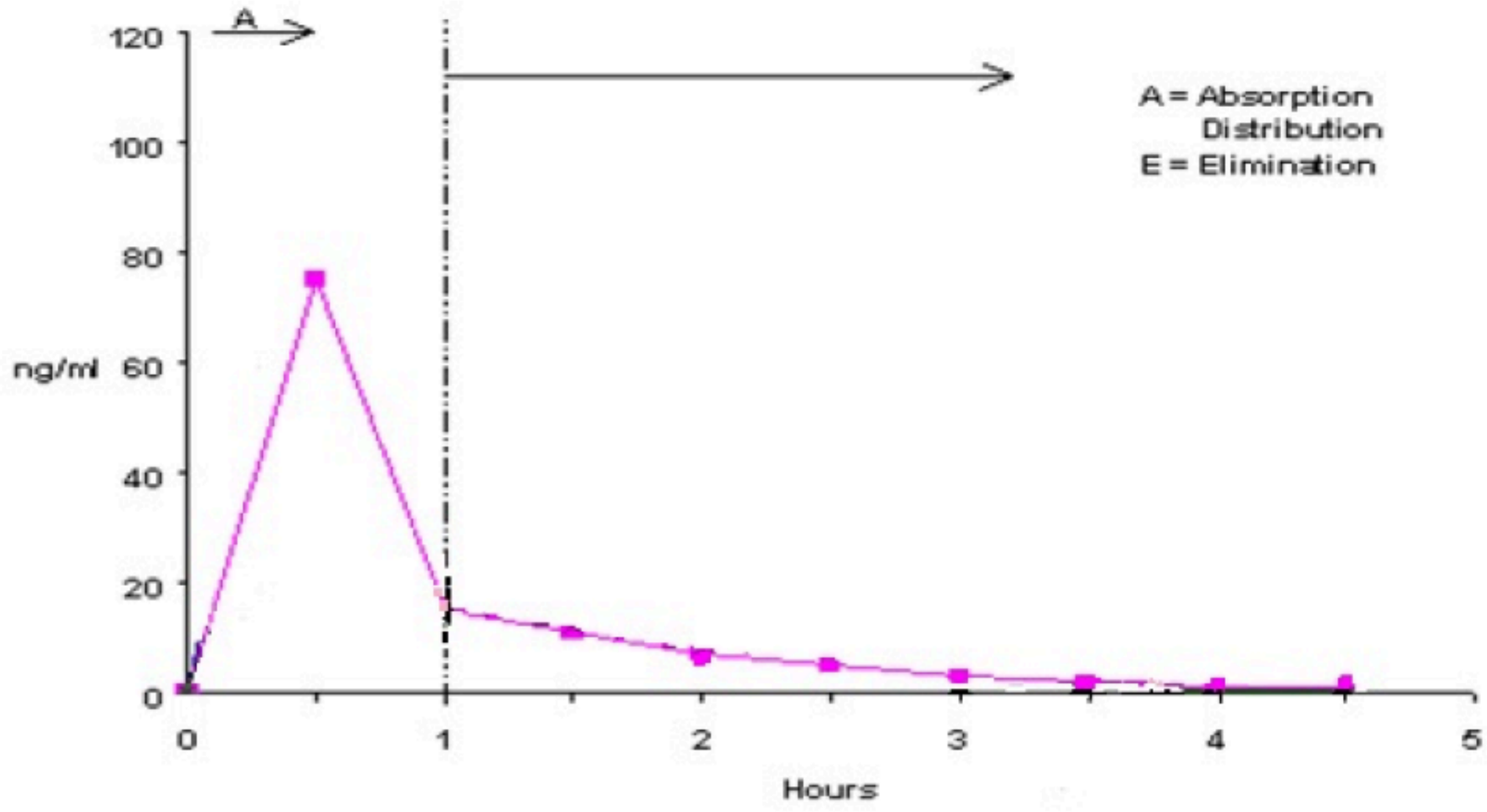
THC-COOH = Carboxy-THC
metabolite of THC formed after cannabis consumption

GC/MS = Gas Chromatography / Mass Spectrometry
method to identify the presence of a substance

MARIJUANA VS. ALCOHOL

- These studies have failed to validate subject's performance on SFSTs as predictors of cannabis induced impairment
- Cannabinoids and alcohol are different
- Alcohol is a CNS Depressant and cannabinoids are not
- They possess different receptor systems found in separate regions of the brain and body

Time Course of THC Concentration in Plasma after Smoking Marijuana
[15mg THC in a 70kg person]
(Adapted from Berghaus et. al. 1998 and Chester 1995)



Time Ingested and Driving

The highest levels of impairment occur approximately 20 to 40 minutes after smoking, with no measured impairment after 2.5 hours for those who smoke 18mg THC or less (Sewell et al, 2009).

Cannabis use – even heavy, frequent use – has not been shown to impair driving ability after the period of acute impairment from cannabis consumption (Grotenhermen et al, 2005)

Evidence of marijuana use may be present in blood/urine tests for extended periods after use.

Usefulness of a Chemical Test

THC, the most psychoactive chemical in cannabis, “appears in plasma immediately after the first puff […] with concentrations peaking approximately 13 min. after smoking” (Desrosiers et al, 2014)

Detecting impairment due to use of marijuana is more difficult. **The body metabolizes marijuana differently from alcohol. The level of THC (the psychoactive ingredient of marijuana) in the body drops quickly within an hour after usage**, yet traces of THC (non-psychoactive metabolites) can still be found in the body weeks after usage of marijuana. There is as yet no scientifically demonstrated correlation between levels of THC and degrees of impairment of driver performance, and epidemiological studies disagree as to whether marijuana use by a driver results in increased crash risk.

Usefulness of a Chemical Test

- Time sample was collected
- Metabolite not Relevant
- Laboratory uncertainty of measurement
- Unknown Factors Inhibit Usefulness
  - route of administration
  - time consumed
  - naivety of user