



# Standard Field Sobriety Tests and Drugs: Hit or Miss?

Tara Jenswold, AAG/TSRP,  
Wisconsin

Emily Thompson, AAG/TSRP,  
Wisconsin







# Cows credited with stopping Wisconsin police pursuit



These cows near Barron, Wisconsin are being credited with stopping a police pursuit late Monday night.  
(Barron County Sheriff's Office)

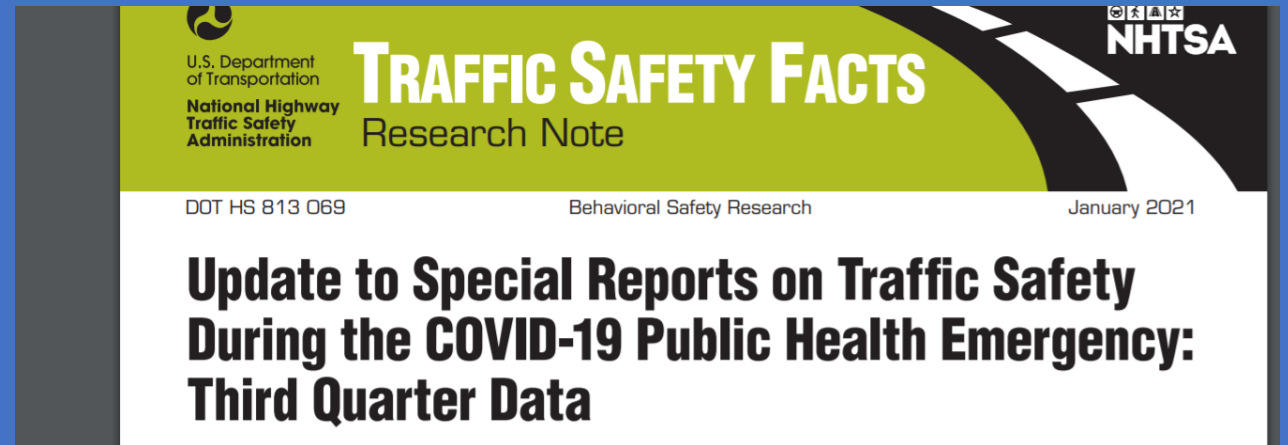






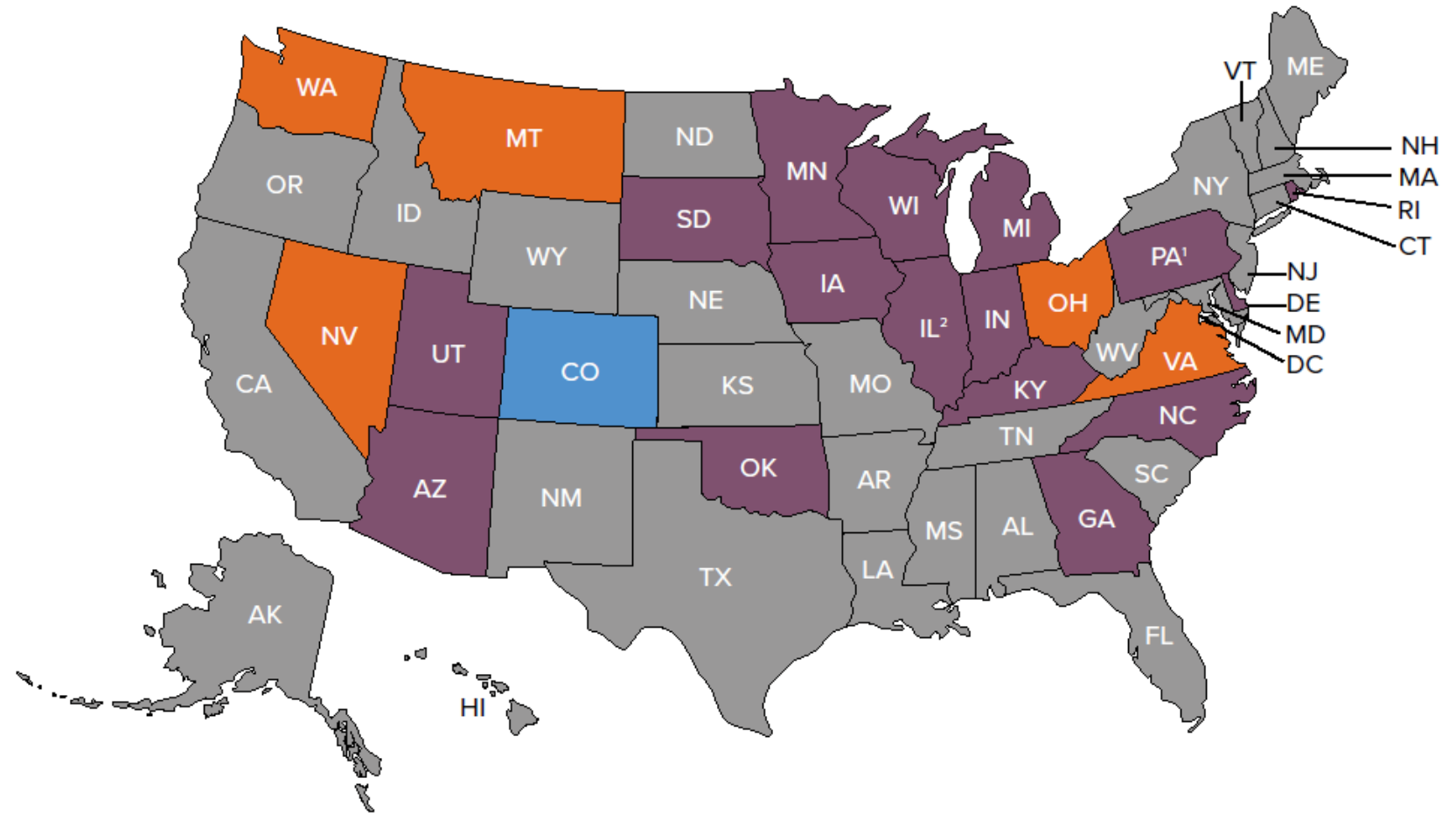
People Use Drugs and Drive

The study of seriously or fatally injured road users at five participating trauma centers (Thomas et al., 2020) found that, between mid-March and mid-July, almost two-thirds of drivers tested positive for at least one active drug, including alcohol, marijuana, or opioids. The proportion of such drivers testing positive for opioids nearly doubled after mid-March, as compared to the previous six months, while marijuana prevalence increased by about 50%.



# Drug per se laws by state

AS OF APRIL 2017



Click on a color to highlight the states in that category

- Per se limit greater than zero for some drugs
- Zero tolerance for some drugs
- Reasonable inference law with a limit greater than zero for THC

From *Drug Impaired Driving: A Guide for States*, GHSA, April 2017

1 Pennsylvania has both a zero tolerance law for some drugs and a 1 ng per se law for THC. Pennsylvania's 1 ng per se law is in effect a zero tolerance law\*.

2 Illinois has both a zero tolerance law for some drugs and a 5 ng per se law for THC.



In Europe in 2016, **10 countries** had impairment laws like DUID, **10 countries** had zero tolerance laws, **2 countries** had a per se limit for some drugs, and **4 countries** had impairment laws for some drugs and zero tolerance laws for other drugs (EMCDDA, 2017).

**Per se limits for some 20 drugs have been established in Norway**

(Vindenes et al., 2012; CCSA, 2014; Schulze et al., 2012).

In 2015, the **United Kingdom** introduced **very low per se limits for illegal drugs**, including marijuana and cocaine, and eight prescription drugs

(D

**Australian states have two-tier systems with zero tolerance for some drugs while Canada has an impairment law** (CCSA, 2014; Solomon and Chamberlain, 2014).



100%





“For more than a quarter century, there has been a search for drug blood concentrations that are the equivalent of the 0.08 g/dL threshold for alcohol-impaired driving in the United States. We suggest that such equivalents are a mirage, and cannot be determined due to variable drug tolerance, lack of consistent relationships between drug blood concentrations and impairment, innumerable drug combinations and multiple other factors.”

(Reisfield et al., 2012)

Why per se limits don't work for drugs



Impairment Still Key





# The SFSTs



# Common Challenges to SFSTs

- SFSTs “validated” for alcohol only – valid vs. validated
- Not relevant to issue of drug impairment
- Other studies
- Not intended to determine driving impairment
- Deviation from standardized protocol
- Not based on real “science”
- Requires expert testimony?
- Terminology – “test,” “pass/fail”



**SEE THIS?**



**THIS IS THE WORLD'S  
SMALLEST VIOLIN.**

**I WILL PLAY IT FOR YOU NOW.**



SFSTs Miss the Mark with Drugs

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# Why Do We Care?

Affects specific case, but also:

- Slippery Slope – Can't create separate FSTs for each potential drug and/or drug combination
- Case law may lead to treating drug DUIs differently
- Threatens officer's ability to testify as to observations and give opinion of impairment








# What is the Basis for these Claims?

- What does the defense rely upon for support?
- Studies
- Case Law

# Published April 5, 2021

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# Field Sobriety Tests and THC Levels Unreliable Indicators of Marijuana Intoxication

Researchers investigated how marijuana affects skills required for safe driving and found that

▲ Rate This Page



**The author(s) shown below used Federal funding provided by the U.S. Department of Justice to prepare the following resource:**

**Document Title:** Differences in Cannabis Impairment and its Measurement Due to Route of Administration

**Author(s):** Megan Grabenauer

**Document Number:** 255884

# Findings: FSTs & Cannabis

- Researchers: OLS, WAT, and modified Romberg balance tests were not sensitive to cannabis intoxication for any of the study participants.
- Many study participants had significantly decreased cognitive and psychomotor functioning even when their blood, urine, and oral fluid contained low levels of THC.
- Researchers also observed that SFSTs commonly used to detect driving under the influence of drugs or alcohol were not effective in detecting marijuana intoxication.



# Limitations

- Low Number Subjects studied (20)
- Researchers Familiarity and Proficiency with FST Administration Unknown
- Repeated FST Exposure
- Don't do baseline in real life
- Rigid Interpretation
- Focus on only validated clues
- Not Realistic Conditions - dosing
- No expanded explanation more of a conclusory statement



- FSTs are one part of the case - not the entire case
- Studies show individuals are impaired by cannabis, but the impairment is not necessarily exhibited by performance on FSTs
- If impairment is seen on the SFSTs in real cases, common sense would lead us to believe the person is more impaired than the individuals in the studies.





# Useful Findings

- THC levels in biofluids were not reliable indicators of marijuana intoxication for their study participants.
- Many participants had significantly decreased cognitive and psychomotor functioning even when their blood, urine, and oral fluid contained low levels of THC.
- Participants' cognitive and psychomotor functioning were negatively impacted after all oral and vaped doses of cannabis except for the lowest vaped dose, which contained 5 mg THC.



At Studies Introduced by the Defense





Case Law

# Commonwealth v. Gerhardt, 477 Mass.775 (2017)

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- Court asked to consider the admissibility of field sobriety tests (FSTs) and officer testimony regarding marijuana impairment

## MASSACHUSETTS



# Admissibility of FSTs for Marijuana

- FSTs may be relevant to defendant's impairment
- Officer may testify as a lay witness to observations of the defendant's performance
  - defendant's balance
  - coordination
  - ability to retain & follow directions
  - ability to perform divided attention tasks
  - Presence/absence of other skills necessary for safe operation of a MV





# Limitations on Officer Testimony

- FSTs will be described as “roadside assessments”
- Officer may not suggest performance on FSTs, alone, establishes that individual was under the influence of marijuana
- Officer may not testify the defendant “passed” or “failed”



**KNOW  
YOUR  
LIMITS**



## Officer Testimony on Marijuana Impairment

- An officer, who has not been qualified as an expert, cannot offer an opinion that the defendant was intoxicated by marijuana
- Lay witness may not offer opinion that another person is “high” on marijuana
- Not w/in general knowledge as to physical & mental effects of marijuana

## Officer testimony - Marijuana

- May testify to observations of defendant's appearance, behavior, and demeanor
- May testify to bloodshot eyes, lack of coordination/balance, reaction times, speech, paranoia, or relaxed responses







Responding  
to the  
Challenges

A wide-angle photograph of a two-lane asphalt road stretching straight into the distance. The road is flanked by dry, golden-brown grass fields. In the far distance, there are some trees and hills under a sky with scattered clouds. The word "start" is painted in large, white, cursive letters across the lower half of the road. The text "Back to Basics" is overlaid in the center of the image in a bold, white, sans-serif font.

**Back to Basics**

*start*



Participant Manual

DWI Detection and  
Standardized Field  
Sobriety Testing  
(SFST)



Revised: 02/2018

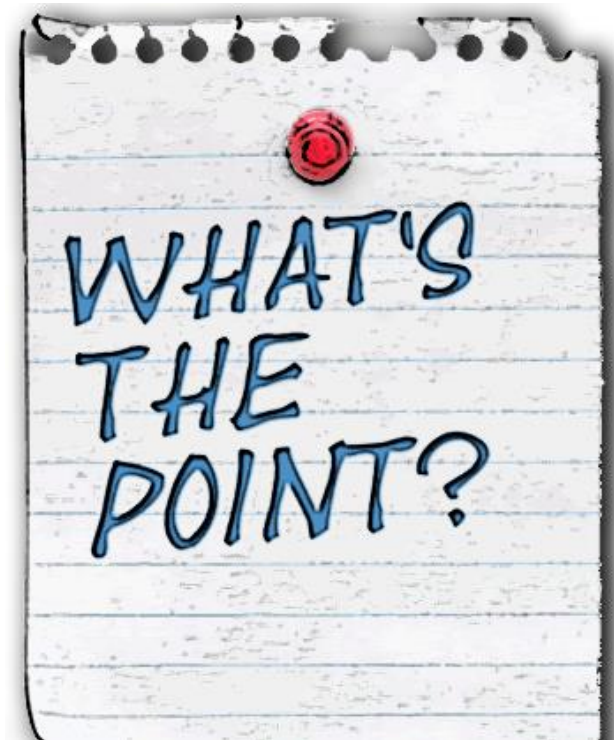


# The Studies

- California
- Florida
- Colorado

## SFST Field Validation Studies





Why Do We Use  
SFSTs in DUI  
Investigation?

# Divided Attention

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- Concentrating on more than one thing at a time – mental tasks and physical tasks





# Driving & Divided Attention

- Driving is a complex divided attention task
- To operate a vehicle safely, subjects must simultaneously control:
  - steering
  - acceleration and braking
  - react appropriately to a constantly changing environment
- NHTSA Manual, Session 7, 13



# SFSTs, Divided Attention, & Driving:

Tests exercise the same mental and physical capabilities a person needs to drive safely.

- Information processing

- Short-term memory

- Judgment and decision making

- Balance

- Steady, sure reactions

- Clear vision

- Small muscle control

- Coordination of limbs

# What are the SFSTs?

- PSYCHOPHYSICAL TESTS: “Methods of investigating the mental (psycho-) and physical characteristics of a person suspected of alcohol **or drug impairment**. Most psychophysical tests employ the concept of divided attention to assess a suspect's impairment.”
- “...most people, when impaired, cannot satisfactorily divide their attention to handle multiple tasks at the same time.”
- NHTSA Manual Session 1, 20 and Session 7, 13







# What are the SFSTs?

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- “Alcohol and many other drugs reduce a person’s ability to divide attention....The concept of divided attention has been applied to psychophysical testing.
- Field sobriety tests that simulate the divided attention characteristics of driving have been developed and are being used by law enforcement agencies nationwide.
- The best of these test exercise the same mental and physical capabilities that person needs to drive safe.”
- NHTSA Manual Session 7, 13

- “Simplicity is the key to divided attention field sobriety testing.”
- “The test...must be one that is reasonably simple for the average person to complete as instructed when sober.”
- “Tests that are difficult for a sober subject to perform have little or no evidentiary value.”
- NHTSA Manual Session 7, 15





**“SFSTs Were Validated to Detect Alcohol Impairment not Marijuana or other drugs”**

- **Yes, they were BUT...even original studies contemplated that people could be under the influence of things other than alcohol during FSTS**



# San Diego Study



- Page 21 “It is possible that other factors influenced the officers’ estimates. For example, the subjects might have appeared to be more impaired than indicated by HGN results as a consequence of prescription or recreational drugs taken in addition to alcohol.”

# San Diego Study

- APPENDIX A
- “The Standardized Field Sobriety Test (SFST) is a battery of three tests administered and evaluated in a standardized manner to obtain validated indicators of impairment and establish probable cause for arrest. If, between the two eyes, four or more clues appear, the suspect likely has a BAC of 0.10 or greater. NHTSA research indicates that this test allows proper classification of approximately 77 percent of suspects. HGN may also indicate consumption of seizure medications, phencyclidine, a variety of inhalants barbiturates, and other depressants.”



# Florida Study

- “The three tests have been incorporated into Drug Influence Evaluations (DIEs) which are conducted by certified Drug Recognition Experts (DREs) whenever an individual is suspected of being drug-impaired.
- **As part of a DRE evaluation, the SFSTs provide important evidence of drug impairment and contribute to the DRE’s three-part opinion:**
  - Is the individual impaired by a drug or drugs?
  - If yes, is the impairment drug-related?
  - If yes, what category or categories of drug account for the impairment?” Pg. 8



# Florida Study

- “The Colorado and California studies provide relevant and current field data.”
- “The validity of the tests when they are administered in the context of drug evaluations was examined in a retrospective analysis of the records of the Phoenix (DRE Unit (Adler and Burns, 1994). It was found that a suspect’s performance of the tests provides valid cues of drug impairment.” Pg. 9



# Studies applying SFSTs to Marijuana in real cases



- Declues, Perez, & Figueroa, “A Two-Year Study of  $\Delta$  9-tetrahydrocannabinol Concentrations in Drivers: Examining Driving and Field Sobriety Test Performance,” 61 J. Forensic Sciences (2016).
- Hartman, Richman, Hayes, & Heustis, “Drug Recognition Expert (DRE) Examination Characteristics of Cannabis Impairment,” 92 Accident Analysis and Prevention (2016)

## TECHNICAL NOTE

## TOXICOLOGY

*Kari Declues<sup>1</sup>, M.S.; Shelli Perez<sup>1</sup>, M.S.; and Ariana Figueroa<sup>1</sup>, M.S.*

A 2-Year Study of  $\Delta$  9-tetrahydrocannabinol  
Concentrations in Drivers: Examining Driving  
and Field Sobriety Test Performance<sup>\*,†,‡</sup>

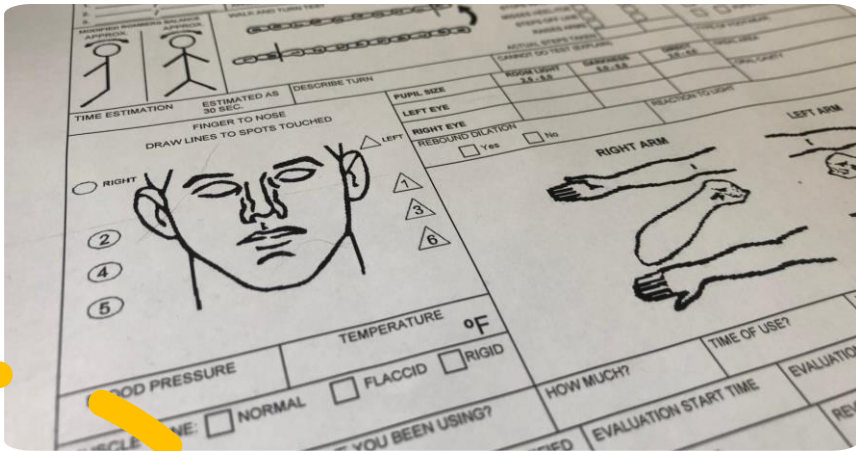
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# Declues, Perez, Figueroa Study - 2016

- Looked at police reports and DRE evaluations of THC positive samples in 363 cases over two years
- Looked at basis of stop, FSTs, and indicators of impairment
- Looked for a correlation between blood THC concentrations, driving pattern, and FST performance on DRE and non-DRE evaluations



# FINDING:



????

Declues, Perez,  
Figueroa Study -  
2016

Conclusion: “The FSTs prove to be sensitive to impairment by marijuana although as suspected, the findings of this study did not find a correlation between performance on field sobriety tests and the concentration of THC tested in whole-blood samples.”

# Hartman, Richman, Hayes, Huestis Study -2016

- 302 Cannabis only DRE evaluations analyzed between 2009-2014
- Looked at basis of stop, FSTs, and indicators of impairment
- Looked at blood THC concentrations, driving pattern, and FST performance

INDICATORS CONSISTANT WITH DRUG CATEGORIES						
	CNS DE-PRESSANTS	CNS STIM-ULANTS	HALLUC-INOGENS	PHENCY-CLIDINE	NARCO-TICS	INHALANTS
E	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT
US	PRESENT (HIGH DOSE)*	NONE	NONE	PRESENT	NONE	PRESENT (HIGH DOSE)*
OF VERGENCE	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT
IZE	NORMAL (1)	DILATED	DILATED	NORMAL	CONST-RICTED	NORMAL (4)
	SLOW	SLOW	NORMAL (3)	NORMAL	LITTLE OR NONE VISIBLE	SLOW
	DOWN (2)	UP	UP	UP	DOWN	UP
	DOWN	UP	UP	UP	DOWN	UP/DOWN (5)
	AL	UP	UP	UP	DOWN	UP/DOWN/NORMAL
individual						
	5.5	6.0	6.5	7.0	7.5	8.0
	8.5					





# Hartman, Richman, Hayes, Huestis Study -2016

- THC impaired subjects had increased pulse, elevated blood pressure, dilated pupils
- There was no significant difference in results with blood THC of less than 5 ng/mL vs. 5+ ng/mL
- Finding 2 or more of the following together resulted in positive ID of THC impaired subjects in 96.7% of cases:
  - 3+ FTN misses
  - MRB eyelid tremors
  - 2+ OLS clues
  - 2+ WAT clues



Findings



# “The Usefulness of SFSTs in Detecting Drugs Other than Alcohol” Study

- Michigan
- Subjects were jail inmates
- SFSTs done by trained officers
- 62 police officers and 527 subjects participated
- No prior knowledge
- Urine taken afterwards







**MORE**

*Coming Soon!*

Findings to be  
Presented at  
DRE  
Conference

# The Study's Findings: SFSTs Together

- 2+ positive tests: reliable detection of cocaine, marijuana, CNS depressants, CNS stimulants, and narcotic analgesics.
- There was no reliable detection of amphetamine, barbiturates, buprenorphine, methadone, methamphetamine, and oxycodone.
- Positive HGN + WAT = different drug(s) than positive WAT + OLS.
- “In conclusion, the data support the hypothesis that the SFSTs, alone and in combination, are useful in detecting impairment from drugs other than alcohol.”

This study  
also has  
limitations!





➤ [Traffic Inj Prev. 2014;15\(2\):125-31. doi: 10.1080/15389588.2013.800638.](#)

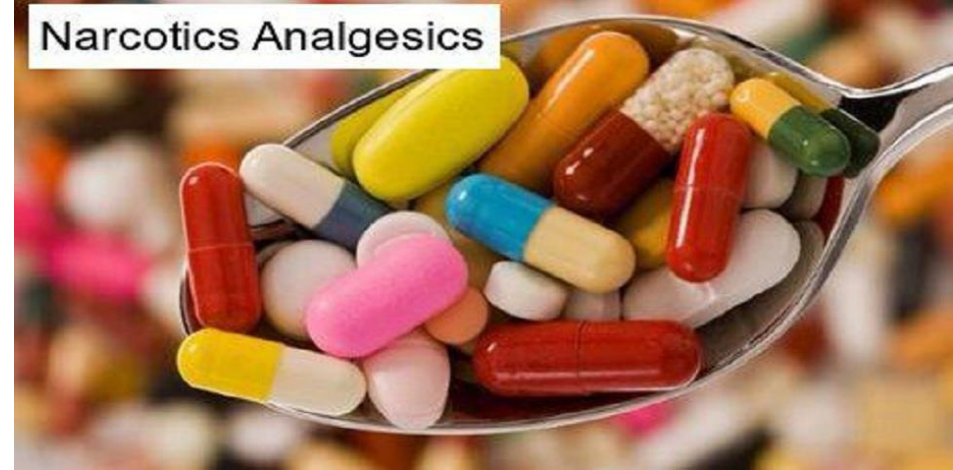
# **An examination of the validity of the standardized field sobriety test in detecting drug impairment using data from the Drug Evaluation and Classification program**

Amy J Porath-Waller <sup>1</sup>, Douglas J Beirness

## Waller & Beirness Study - 2014

- Looked at 2,142 completed DEC evaluations
- CNS stimulants, CNS depressants, Cannabis and Narcotic Analgesics

Narcotics Analgesics



CNS STIMULANTS



CNS DEPRESSANTS





# Results & Conclusion

All four drug categories showed signs of impaired performance on the SFST. On the HGN test, users of CNS depressants were significantly more likely to experience lack of smooth pursuit and distinct nystagmus at maximum deviation compared to those who did not use drugs. On the OLS test, users of all four drug classes were significantly more likely to sway while balancing and use their arms to maintain balance, but were less likely to hop, as compared to drug-free cases. Users of CNS depressants, CNS stimulants and NA were also significantly more likely to put their raised foot down during the test. On the WAT test, users of CNS depressants, CNS stimulants and NA were less likely to keep their balance while listening to the test instructions compared to those who had not used drugs. Users of CNS depressants were less likely to touch heel-to-toe while walking, whereas individuals who had used NA were less likely to take the correct number of steps.

These findings provide support for the use of the SFST as a screening tool for law enforcement to identify impairment in persons who have used CNS stimulants, CNS depressants, cannabis or Narcotic Analgesics.



ORIGINAL INVESTIGATION

Beata Y. Silber · Katherine Papafotiou ·  
Rodney J. Croft · Con K. K. Stough

**An evaluation of the sensitivity of the standardised field sobriety  
tests to detect the presence of amphetamine**

SFSTs and Other Drugs



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Rapid communication

Examining the effect of *dl*-3,4-methylenedioxymethamphetamine (MDMA) and methamphetamine on the standardized field sobriety tests

Luke A. Downey<sup>a</sup>, Rebecca King<sup>a</sup>, Katherine Papafotiou<sup>a</sup>, Phillip Swann<sup>b</sup>, Edward Ogden<sup>c</sup>, Con Stough<sup>a,\*</sup>

## SFSTs and Other Drugs

Epub 2013 Feb 28.

# The effect of trazodone on standardized field sobriety tests

Eric J Ip <sup>1</sup>, Quang V Bui, Mitchell J Barnett, Amin Kazani, Roger Wright, Melissa J Serino, Paul J Perry

**Measurements and main results:** The SFST consists of the horizontal gaze nystagmus, walk-and-turn, and one-leg stand tests. Subjects were administered a baseline SFST and at 2 hours after the administration of either trazodone 100 mg (30 subjects) or acetaminophen 650 mg (15 subjects). At 2 hours post drug administration, there were no statistical differences in failure rates between the trazodone and acetaminophen groups (53.3% vs 20.0%,  $p=0.054$ ). However, the trazodone group exhibited more impairment clues within the individual tests of the SFST than the acetaminophen group.





Countering the Claim in Court

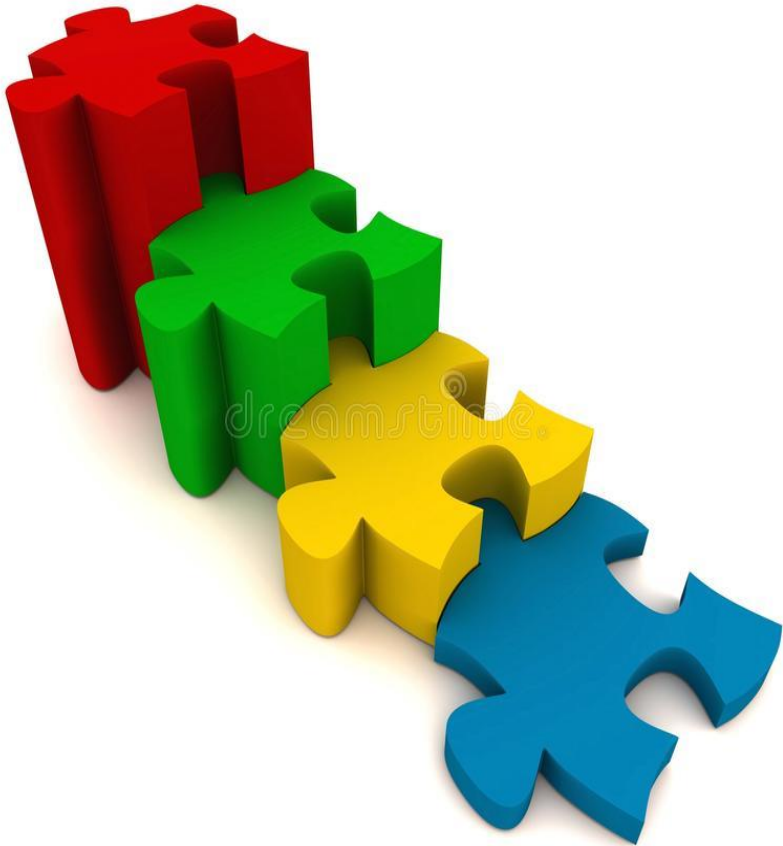
Q How did he do?

A Not good. He put his foot down a lot. He played the air guitar and sang a song with his leg bent.

Q Is that something that's not part of the test?

A I usually do not see that.

## Creating a Record



Establish qualifications – Training & Experience



Discuss SFST manual



Discuss studies (San Diego, Florida)



Other studies useful to identify common indicators of impairment



Look at defense studies with critical eye



Stay in your lane





# Rule 702 – Testimony by Experts

(a) If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by **knowledge, skill, experience, training, or education**, may testify thereto in the form of an opinion, or otherwise, if all of the following apply:

- (1) The testimony is based upon sufficient facts or data.
- (2) The testimony is the product of reliable principles and methods.
- (3) The witness has applied the principles and methods reliably to the facts of the case.



## Rule 702 – Testimony by Experts

(a1) Notwithstanding any other provision of law, a witness may give expert testimony solely on the issue of impairment and not on the issue of specific alcohol concentration level relating to the following:

- (1) The results of a Horizontal Gaze Nystagmus (HGN) Test when the test is administered in accordance with the person's training by a person who has successfully completed training in HGN.
- (2) Whether a person was under the influence of one or more impairing substances, and the category of such impairing substance or substances, if the witness holds a current certification as a Drug Recognition Expert, issued by the State Department of Health and Human Services.



Favorable  
Case Law



## State v. Lindley, 286 NC 255 (1974)

- Vehicle narrowly missed bridge railing and weaving
- Driver very wobbly and unsteady on his feet; pupils were contracted, almost pinpoint
- White substance on lips and no alcohol smell
- Dazed, in a stupor and incoherent at times
- Officer with 5 years experience testified it was drug impairment; court allowed based on conditions observed and information gained during interrogation

## State v. Lindley, (cont.)

- “We have held in recent cases that a lay witness may state his opinion as to whether a person is under the influence of drugs when he has observed the person and such testimony is relevant to the issue being tried”.

State v.  
Norman, 711  
SE 2d 849  
(2011)

- No difference between credentials based on formal, academic training and those acquired through practical experience.
- Expert testified as to the effects of cocaine on driving ability, noting a correlation between "high-risk driving, speeding, [and] sometimes fleeing . . . when cocaine is present."



# State v. Landeta-Soto, 2010 NC App LEXIS 1245 (2010)

- Defendant argued the State offered absolutely no evidence of what substance supposedly caused the impairment.
- There was no evidence of alcohol consumption, and defendant admitted she had taken a "nerve pill".
- While a pill bottle was taken from defendant's car by EMS workers, it was never seized by police, and the officer failed to note the type of medication listed on the bottle.
- No blood analysis
- Court held "a law enforcement officer may express an opinion that a defendant is impaired."

## State v. Istvan, 2015 NC App LEXIS 225 (2015)

- Defendant was charged with DWI. Two officers involved both testified as experts that the defendant was impaired on a drug other than alcohol without categorizing a drug.
- Neither officer was a certified DRE.
- Court held “being a certified **drug recognition expert** is just one way to qualify as an expert to testify under this subsection.”
- “Nothing in the statute or our State's case law suggests that having such certification is the *only* way in which a witness may qualify to testify as an expert under this subsection.”



# CAUTION

## WATCH YOUR STEP

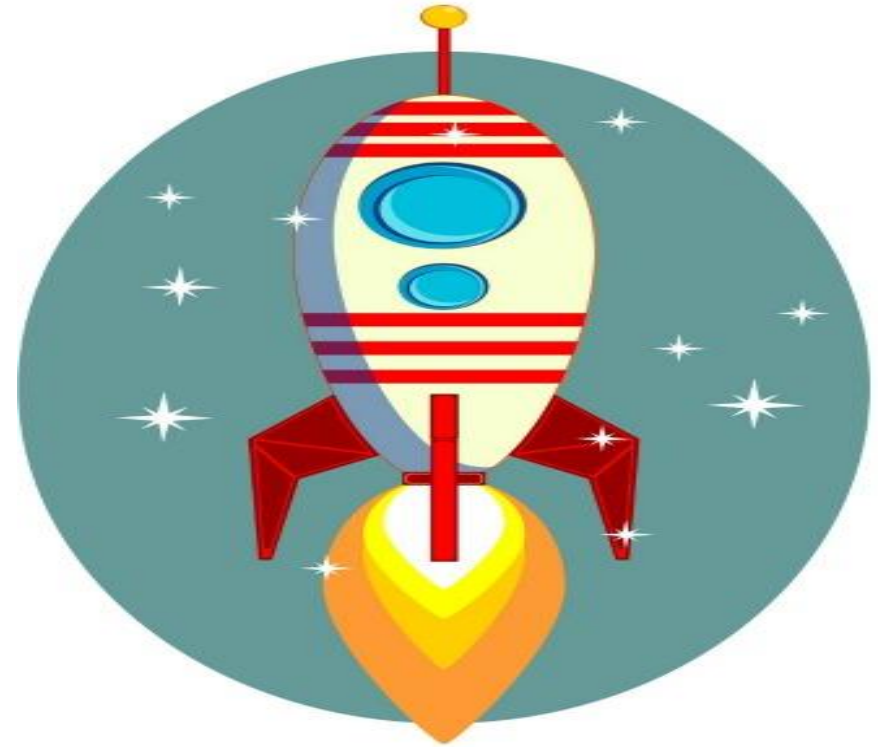


- Do not correlate a particular # of clues or a certain type of performance on the SFST's with drug impairment or a LEVEL of impairment



# You Are an Expert, BUT...

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# Not Rocket or Weird Science

- Don't let the defense make it more complicated than it is
- A jury can understand that poor balance, coordination and mental impairment will affect ability to operate a vehicle
- Not new or novel
- Looking for physical and mental impairment that affects driving – does not matter what the impairing substance is



Impairment= Impairment

# SFST Curriculum Includes Alcohol **AND** Drugs



- Session 1 page 12, 13, 20
- Session 5 page 3, 5, 6, 19, 21 ,26
- Session 6 page 6, 12, 19, 23
- Session 7 page 7, 8, 13, 29
- Session 8 page 18, 23, 30
- Session 12 pages 33, 35





- A DUI investigation is a DUI Investigation, regardless of whether drugs or alcohol
- Vehicle in Motion – Same
- Personal Contact – Same
- Pre-arrest Screening - Same



- “Remember whether the driver is impaired by alcohol and/or drugs, the law enforcement detection process is the same and the offense is still DWI.”  
Session 5-6
- “Some of the most significant evidence from all three phases of DWI detection can be related directly to the effects of alcohol and/or other drugs on divided attention ability.”  
Session 5-19





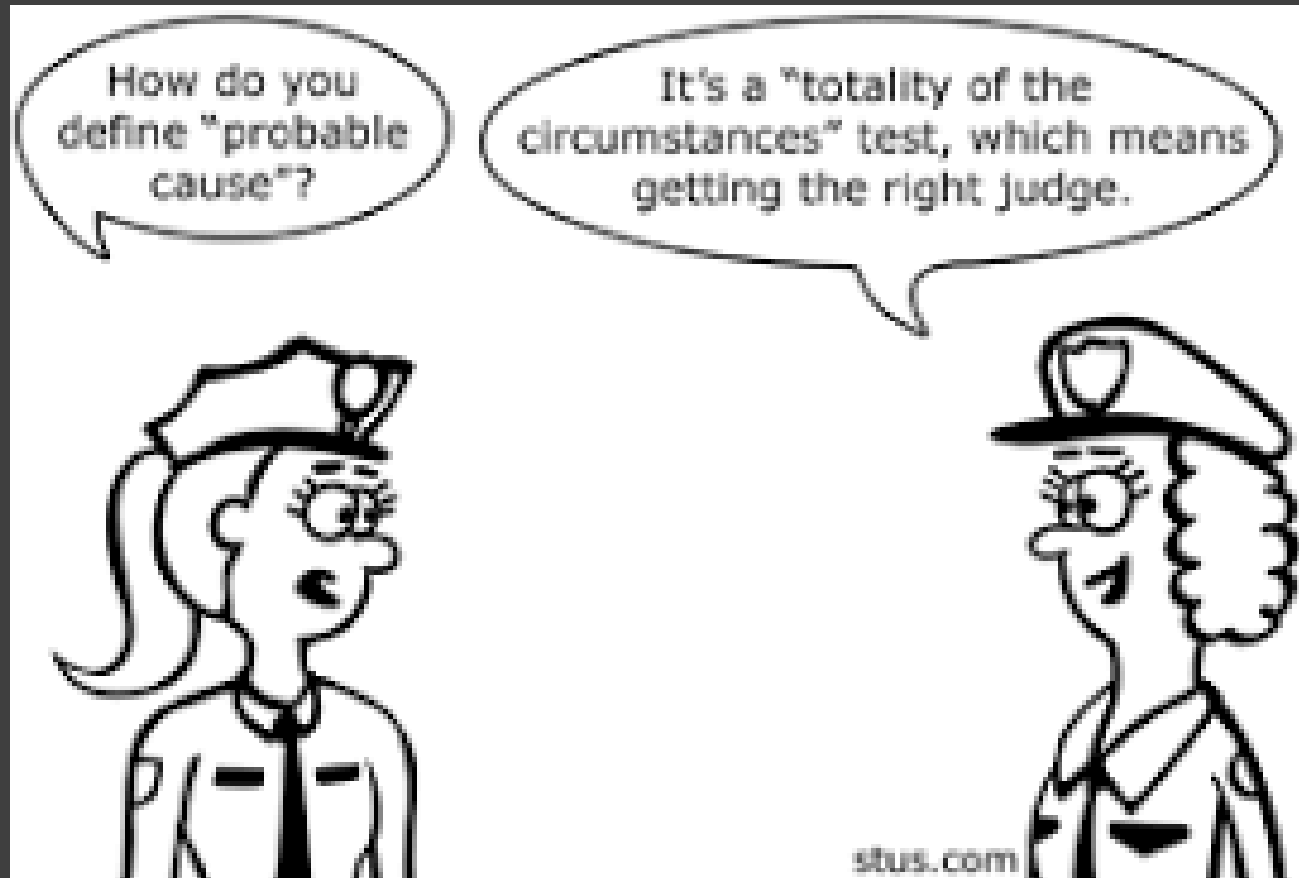
# SFSTs just one piece

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- Be prepared to prove impairment in the traditional ways used in alcohol cases:
  - Driving conduct
  - Admissions
  - Defendant's appearance
  - Speech
  - Confusion and memory problems
  - Mobility and balance
  - Any other NOTICEABLE mental or physical factors



# Totality of the Circumstances



- Your opinion of impairment is based on the totality of your observations not just the performance on the field sobriety tests.
- What are the facts specific to your case that led to an opinion of impairment?

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