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# ADVANCED ANALYTICAL APPROACHES TO ESTABLISHING INTOXICATION

# Order of Operations

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Issue spotting in three steps

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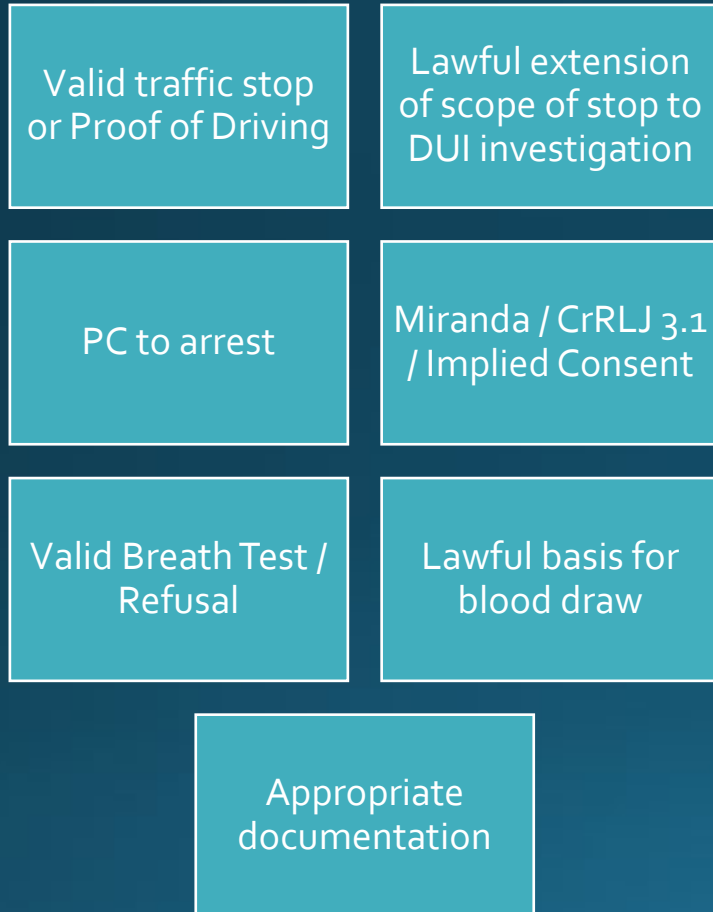
Correctly framing the question

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Thinking critically about what is there and what is not

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# Step 1: Legal Sufficiency



***Is the case viable, is the blood evidence going to be admissible?***

# Step 2: Factual Sufficiency

Driving  
behavior

Physical  
observations of  
person

Balance and  
coordination

Demeanor and  
mood

SFST  
performance or  
Refusal

Statements  
and admissions  
of driver

BAC or Refusal  
evidence

Blood Evidence

Opinion of  
Impairment

*Is there prima facie  
evidence of all the  
foundational  
requirements for blood?*

# Step 3: Miscellaneous Considerations

Was correct  
crime charged

Was charging  
language correct

Is the Witness  
List complete

Is all discovery  
timely available  
& disclosed

Are there any  
procedural  
irregularities

Witness  
scheduling  
considerations

Witness PID

Emerging trends  
in DUI litigation  
and caselaw

Equities of a  
particular  
incident

***Are there barriers to getting a case  
to a jury?***

***Is there a solution to any problems  
within a reasonable expenditure of  
taxpayer time and money?***

# ChatGPT: How Strong *is* this Blood Case?



*Blood evidence can be reliable in a DUI (Driving Under the Influence) case, but its reliability depends on several factors, including how the blood sample was collected, stored, and analyzed....*



*while blood evidence is typically considered one of the more reliable forms of evidence in a DUI case, its reliability hinges on proper handling, accurate testing, and the absence of any procedural issues.*

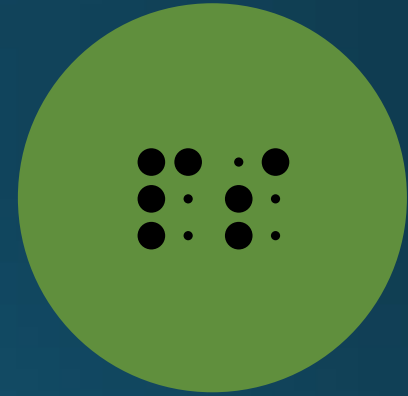
# TSRP: How Strong *is* this Blood Case?



JURIES LOVE BLOOD  
EVIDENCE, AND LOVE  
PUNISHING YOU IF YOU  
DON'T HAVE IT .



JURIES TRUST BLOOD  
EVIDENCE, GENERALLY  
SPEAKING, MORE THAN  
BREATH.



KNOWING WHAT IS IN THE  
BLOOD IS NOT THE SAME  
AS PROOF OF IMPAIRMENT

# SHORTCOMINGS OF BLOOD CASES

No *per se* level for anything but THC / Alcohol

Drugs – Tox cannot testify to impairment based on quantification of drugs in blood alone

Therapeutic level myth – Still an *affected by* case. There is no magic value that is “exculpatory”



Reportable levels for various substances

Metabolism unknown (except ETOH)

Testing is not comprehensive  
– spice & other synthetics not detected

Novel psychoactive substances

## SHORTCOMINGS OF BLOOD CASES



# SHORTCOMINGS OF BLOOD CASES

## Stop Testing Policy

- May show only ethanol or only THC, but is *not* indicative of whether there is combined influence.
- Rely on the report to determine what testing was actually done, never assume it was comprehensive or that there was not combined influence.

# OTHER “CHALLENGES” TO BLOOD

Notices from Tox lab -  
Toxicology Laboratory  
Division - Washington  
State Patrol

- Meth contamination
- Refrigerator outages

Attack on Tox Lab, the  
Analyst, or method

- Expired blood vials
- Vials not filled completely / low sample volume
- Testing delay / backlog

# Prosecutor: How Strong *is* this Blood Case?



WHAT DOES YOU AFFECTED BY EVIDENCE LOOK LIKE?



CAN YOU CORROBORATE THAT EVIDENCE WITH THE TOXICOLOGY RESULT?



ARE YOU PREPARED TO USE YOUR TOXICOLOGIST AS AN EXPERT IN DRUG OR POLY-DRUG IMPAIRMENT?

# Affected by “drugs” – Observations

## Chronic Drug Use

- Paraphernalia Present and/or PCS
- Aroma of ammonia or “cat pee” / burnt chemicals
- Blackened fingertips
- Poor dental hygiene “Meth Mouth” / Skin issues, sores, or scabs
- Track marks
- Dirty car / living in the car
- Suspended license / no insurance / no registration / failure to transfer title
- No seatbelt!

## Current Drug Impairment

- Admissions
- Observations consistent with recent use
- Cognitive issues, drowsiness, disorientation
- Balance/coordination issues
- Bad driving (moving violations / crash)
- Low, raspy speech or very rapid speech
- Pale and sweaty
- Body tremors or extreme fidgeting/Jittery
- Greenish hue on tongue / residue in mouth
- Abnormal pupils or pupil response to light

# Affected by “drugs” – CASE STUDY 1

## TRAFFIC STOP

- I-5 doing 58 in a 60, brakes hard, signals right, slows to 50 before making a slow lane change.
- Driver appeared to be texting while driving as Trooper passed her
- Driver did not react to overhead lights, so Trooper used siren in all 3 modes to get her attention – took over a 1 mile to pull over

# Affected by “drugs” – CASE STUDY 1

## INITIAL CONTACT

- Back seat filled to the bottom of the rear window w/personal items
- Driver says he was using phone's map. Claims her wallet was stolen and provided verbal ID
- Trooper observes “extremely rotted teeth in a way that was consistent with heavy narcotics use” – Inquires about drugs
- Admits heroin the night before, smoked, last shot up 6 years ago
- Been using since she was 15, she's 36 now
- Uses 0.5g per day

# Affected by “drugs” – CASE STUDY 1

## PRE-ARREST SCREENING OUTSIDE OF VEHICLE

- 0/6 HGN, eyelids droopy and watery
- 5/8 W&T
- 0/4 OLS
- 16/30 Romberg, gradually leans forward during test
- 0.00 PBT

## ARREST



# Affected by “drugs” – CASE STUDY 1

## BLOOD DRAW

ST-21-05573-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for opiates on 03/11/2022. The following result(s) was obtained:

<b>Morphine</b>	<b>0.012 mg/L</b>
(test conducted by Sheila Azutillo, Forensic Scientist 3)	

ST-21-05573-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for amphetamines on 04/06/2022. The following result(s) was obtained:

<b>Amphetamine</b>	<b>0.041 mg/L</b>
<b>Methamphetamine</b>	<b>0.34 mg/L</b>
(test conducted by Stacey Dougher, Forensic Scientist 3)	

ST-21-05573-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for fentanyl and norfentanyl on 04/25/2022. The following result(s) was obtained:

<b>Fentanyl</b>	<b>4.6 ng/mL</b>
<b>Norfentanyl</b>	<b>positive</b>

Are the general effects of these substances consistent with:

- Multiple infractions,
- Being slow to pull over
- Performance of SFST
- Admissions of driver

# Affected by “drugs” – CASE STUDY 1



- a. What was the suppression motion for?
- b. Is the trial viable?

# Affected by “drugs” – CASE STUDY 2



# Documented Affected by Evidence

## DISPATCHED

- Dispatch advised that a male was passed out in a running car at the gas station.
- I walked to the driver side and could see the driver hunched over with a plastic pipe in his mouth. (car legally parked in parking space, engine running, veh in gear)
- I could see the male driver had a piece of tin foil in his hand with black burn marks across it. (Deputy explains how this drug paraphernalia is used to smoke fentanyl)

## ARREST

- He told me he had smoked the leftovers of a “perk” (fentanyl pill) about 30min ago. (It was 1.5 hours later than the driver said it was)
- He was slow to speak and his would being (sic) to close (his eyes) as if he was tired, both of these are signs of suspected opiate use. I did not take note of his pupil size or reactivity to light.

# Documented Affected by Evidence

ST-21-09727-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for cannabinoids on 05/18/2022. The following result(s) was obtained:

<b>Carboxy-THC</b>	<b>34 ng/mL</b>
<b>THC</b>	<b>3.0 ± 0.8 ng/mL (k=3, 99.7% confidence level)</b>

ST-21-09727-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for fentanyl and norfentanyl on 08/10/2022. The following result(s) was obtained:

<b>Fentanyl</b>	<b>15 ng/mL</b>
<b>Norfentanyl</b>	<b>positive</b>

Are the general effects of these substances consistent with:

- Nodding out
- Smoking a “perc”
- Being slow to speak
- Looking tired

Combined effects?  
Synergistic or  
antagonistic?

# Affected by “drugs” – CASE STUDY 2

Pictures / BWC / ICV can be very impactful to paint the picture of impairment

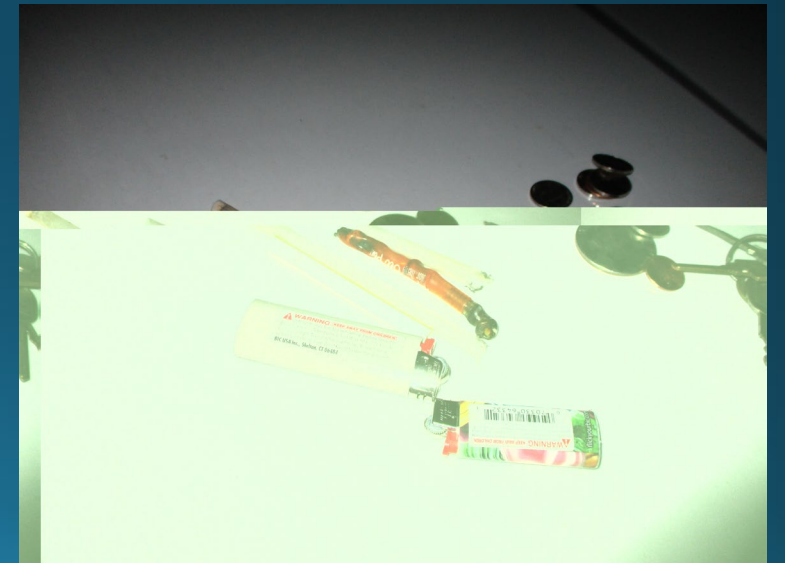
Pictures are not a substitute for good police work

Toxicology Evidence is not a substitute for a thorough investigation

Different people will show different signs of impairment, and poly drug use can have a wide range of observed impairment



# Affected by “drugs” – CASE STUDY 3



# Documented Affected by Evidence

## OBSERVATION OF VEHICLE & DRIVER

- Observed a vehicle with its hazards on partially blocking lane 1 of 2 on EB SR 2 at MP 4
- The vehicle was parked with both of its driver side tires over the fog line and into the lane of travel.
- Lone male subject in the driver's seat slumped forward and to the right.
- The driver had a piece of foil with black track marks across it in his right hand a lighter in his left hand.
- The driver was unresponsive to either my vehicles emergency lights or my flashlight.
- (Driver wakes up while Trooper taking pictures) - Once the driver saw me he immediately shoved the lighter and foil into the pocket of the jacket that was on his lap and then threw the jacket onto the passenger floorboard.



# Documented Affected by Evidence

## PRE-ARREST INVESTIGATION

- “I ran out of gas,” “I ran out of gas right here,” someone named Chris was driving and she went to get gas.
- There was no room in the passenger seat or floorboard for anyone to have been riding there
- Driver admits it’s his truck and says he just bought it. He claimed being unfamiliar with the truck is why he was out of gas (although he denied driving).
- Keys in center console.
- Said was asleep because he was tired (est. 1hr), but didn’t know why he had a lighter and foil.
- Constricted pupils, not reactive to light.
- Sweating.
- Voice was low and gravelly.

# Documented Affected by Evidence

## PRE-ARREST INVESTIGATION

- Denied illicit drug use and alcohol
- Driver still sweating while commenting he believed it was cold outside
- Romberg 23/30, body tensed during test, did not say “stop” to end test as instructed
- W&T – Not done due to poor balance and fall risk during instructional phase
- OLS – Began testing during instruction phase, 3 of 4 clues
- .000 PBT
- Denied meth, admitted THC that morning, ... then Trooper asks about heroin (2016)
- I asked (driver) when the last time he used heroin was and his face immediately dropped. He took a long moment to think before advising me “today”... and “a little bit ago”
- Trooper asks how long a little ago is, “well you saw the foil in my hand.”

## ARREST

# Documented Affected by Evidence

## VOLUNTARY BLOOD DRAW

ST-20-02275-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for opiates on 08/11/2020. The following result(s) was obtained:

<b>Morphine</b>	<b>0.029 mg/L</b>
(test conducted by Stacey Dougher, Forensic Scientist 3)	

ST-20-02275-A was tested by Liquid Chromatography/Tandem Mass Spectrometry for amphetamines on 10/14/2020. The following result(s) was obtained:

<b>Amphetamine</b>	<b>0.026 mg/L</b>
<b>Methamphetamine</b>	<b>0.56 mg/L</b>
(test conducted by Mindy Krantz, Forensic Scientist 3)	

Are the general effects of these substances consistent with:

- “Slumper”
- Smoking heroin on foil
- Fast internal clock
- Sweating while “cold”
- Balance issues
- Constricted pupils
- Low, gravelly voice

Combined effects?

Synergistic or antagonistic?

# Affected by “drugs” – The Witness

DRE witness with full DRE protocol is ideal!

ARIDE training is next best thing.

Limited experience or limited additional training related to drugs is tricky.

Your witness must be prepared to explain and give context to their observations

Your witness must not appear like they are picking on a drug user

Your witness must not treat a blood draw like dispositive proof and ignore other investigative tools

# General Drug Signs & The DRE Matrix

2023 DECP DRE Matrix	CNS Depressants	CNS Stimulants	Hallucinogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
<b>General Indicators</b>	Disoriented Droopy eyelids Drowsiness Drunk-like behavior Impaired Judgement Relaxed inhibitions Slow, sluggish reactions Thick, slurred speech Uncoordinated Unsteady walk Variety of emotional effects	Anxiety Body tremors Dry mouth Euphoria Exaggerated reflexes Excited Eyelid tremors Grinding teeth (Bruxism) Hyperactivity Increased alertness Insomnia Irritability Redness to the nasal area Restlessness Runny nose Talkative	Body tremors Dazed appearance Difficulty with speech Disoriented Hallucinations Impaired perception of time and distance Memory loss Nausea Paranoia Perspiring Piloerection Synesthesia Uncoordinated	Blank stare Chemical odor (PCP) Confused Cyclic behavior Disoriented Hallucinations Incomplete verbal responses Increased pain threshold Non-communicative Perspiring Possibly violent Sensory distortions Slow, slurred speech Slow responses	Depressed Reflexes Difficulty concentrating Droopy eyelids Drowsiness Dry mouth Euphoria Itching Nausea "On the nod" Puncture marks Slow, low, raspy speech Slow breathing Slow deliberate movements	Bloodshot eyes Confused Disoriented Flushed face Intense headaches Muscle weakness Non- communicative Odor of substance Possible nausea Residue of substance Slow, thick, slurred speech Watery eyes	Bloodshot eyes Body tremors Disoriented Euphoria Eyelid tremors Greenish coating on the tongue Impaired memory Impaired perception of time and distance Incomplete verbal responses Increased appetite Lack of concentration Mood changes Paranoia Rebound dilation Released inhibitions Sedation

# Affected by “drugs” – The Matrix

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Matrix is for guidance only

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Only a DRE can “call” a drug category;  
Other fact witnesses provide general  
opinion of impairment

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Blood evidence can “prove” a drug  
category by identifying a specific drug and  
can corroborate opinion of impairment

# Affected by “drugs” – Expert Testimony



Plan to understand what the witness needs to provide informed answers about drug categories and signs consistent with impairment



Seek expert guidance when tox results and affected by case appear at odds



Speak to the expert in advance to understand the limitations of what they can testify to regarding effects of drugs and signs of impairment