

Impact of Oral Fluid Screeners[®] on Road Safety

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life saving innovations

CANADA

Cannabis Legalization

- October 17, 2018 is legalization of Cannabis
- Earmarked \$170 million towards training for Law Enforcement and Border Security



Strengthening Impaired Driving Laws

For THC, the proposed levels would be:

- 2 nanograms (ng) but less than 5 ng/ml (blood) for summary conviction offence
- 5 ng/ml for drug-only hybrid offence
- 2.5 ng/ml combined with 50 mg% of alcohol for the alcohol hybrid offence

Stengthening Impaired Driving Laws

Penalties are as follows:

- **First offence:** \$1,000 fine
- **Second offence:** Imprisonment for 30 days
- **Third and all subsequent offences:** Imprisonment for 120 days

Strengthening Impaired Driving Laws

Statistics Canada findings on drug impaired cases:

- **Twice as long to litigate in court**
- **Less likely to receive a guilty verdict**
- **Expect and “exponential” increase to court challenges due to murky link between blood THC and impairment**
- **“Per Se” limits are controversial as there is no clear link between the level of THC in blood and degree of impairment**

A number of well established reports on Oral Fluid Drug Screening equipment:

- [Final Report on the Oral Fluid Drug Screening Device Pilot Project](#) – Public Safety & RCMP
- [Report on Drug Screening Equipment](#) – Canadian Society of Forensic Science
- [An assessment of oral fluid drug screening devices](#) – D. Beirness & D. Smith
- [A Feasibility Study on Roadside Oral Fluid Drug Testing](#) – MADD Canada

Pilot Study

Roadside Screening

- Commenced in December 2016
- Trained Law Enforcement from across all provinces in Canada (RCMP, OPP, etc.)
- Selection limited to DrugWipe and Alere
- Results were released in April 2017
 - Extensive media coverage
 - Generally positive
 - Concern over false positives in very cold weather



Pilot Study

Roadside Screening

- Ease of use of the devices at the roadside
- Comfort and confidence with the devices over time
- Ability to troubleshoot and adapt to problems
- Deployment in various weather, temperature and lighting conditions
- Standard operating procedures and training



Drugs and Driving Committee (DDC)

Saliva drug test

- Released formal Standards in November 2017
- Require Oral Fluid testers with following threshold limits:
 - THC (25 ng/mL)
 - Cocaine (50 ng/mL)
 - Methamphetamine (50 ng/mL)
- Formal evaluation includes Laboratory testing for specificity and sensitivity – 750 samples
- Requires test strips to consist of Oral Fluid test strips and readers
- NO cross-reactivity with Amphetamine



Study Population 1 – Impaired Drivers without DRE Assessment

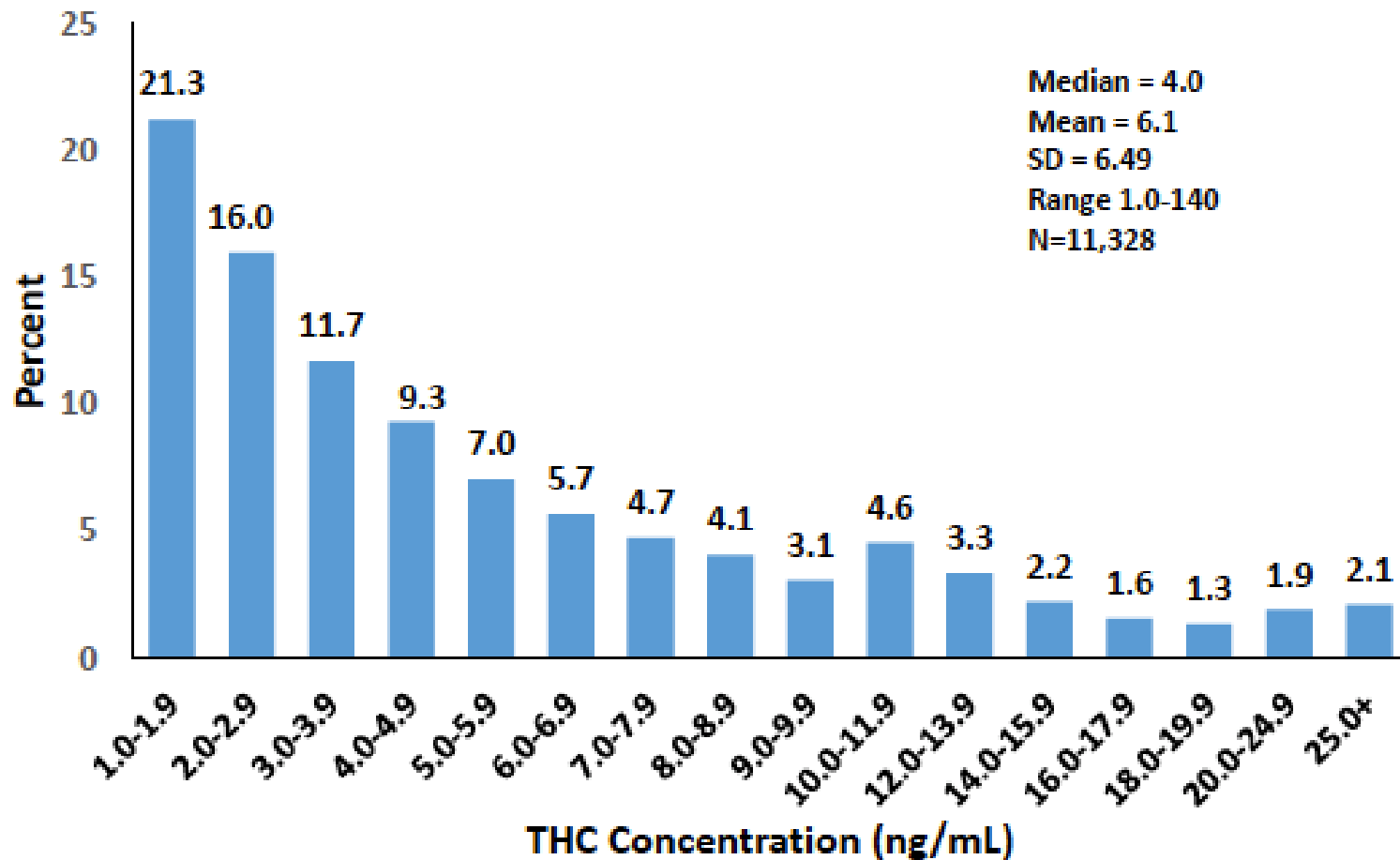


Figure 5: THC concentration distribution among arrested drivers without DRE assessments who were positive for THC (≥ 1 ng/mL)

Study Population 2 – Impaired Drivers with DRE Assessment

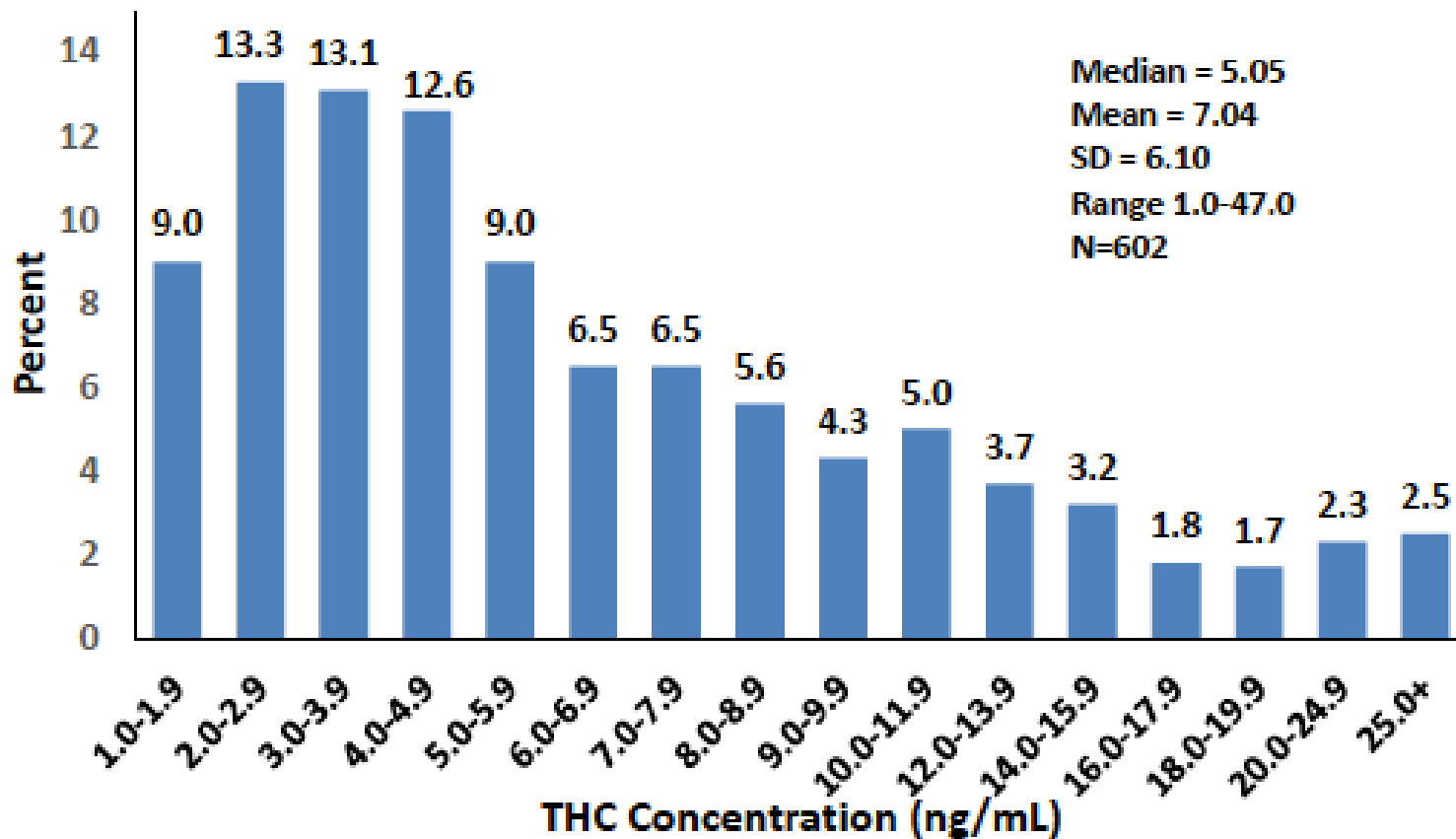
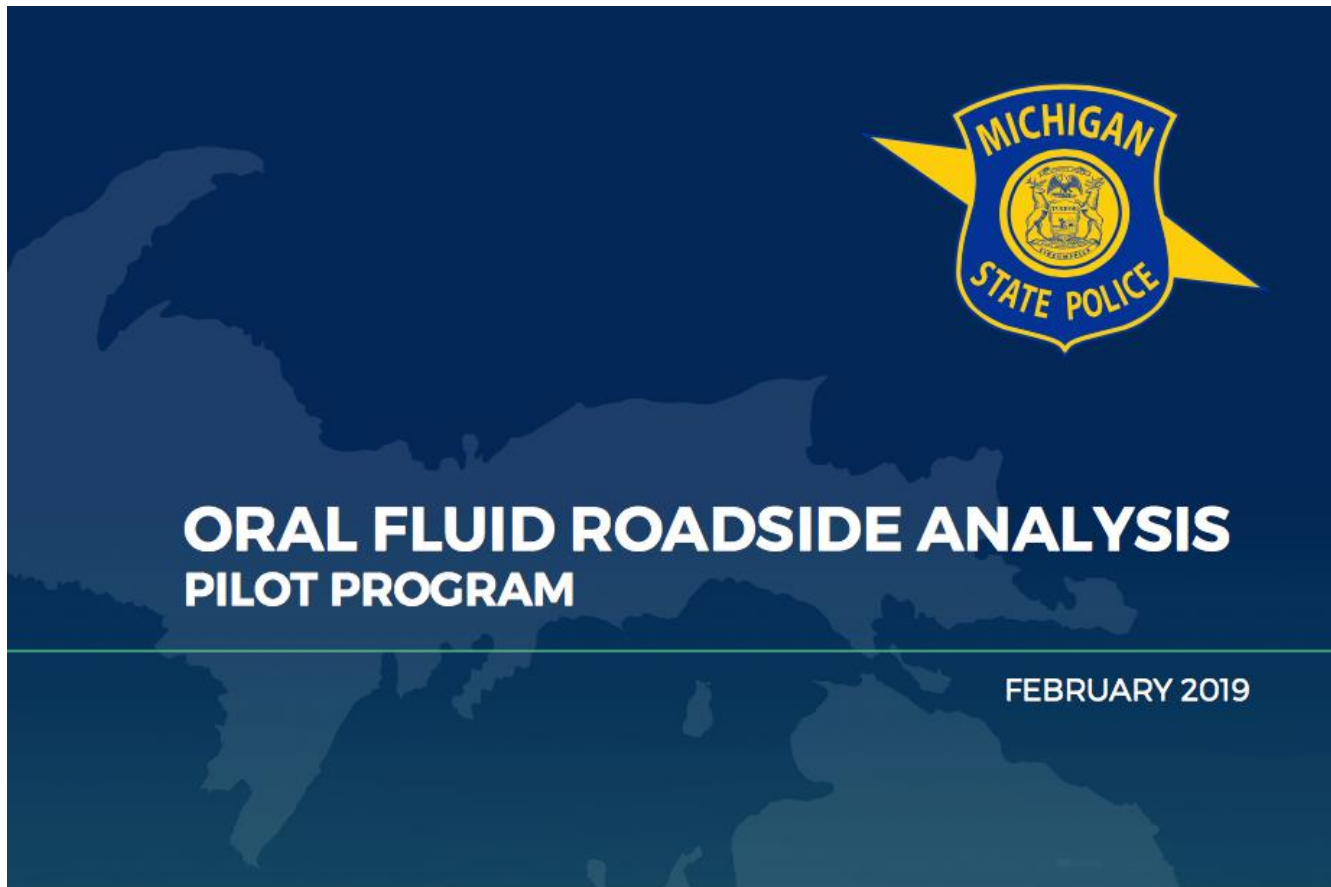


Figure 1: THC concentration distribution in 602 Cases with DRE Evaluations

ORAL FLUID ROADSIDE ANALYSIS – Pilot Program, Michigan



2019 Michigan Oral Fluid Roadside by Lt. James Flegel:

Two Oral Fluid samples were collected:

1. Analyzed by Oral Fluid Screener
2. Analyzed by Forensic Laboratory (FFL)
3. Blood (FFL)

Michigan Oral Fluid Roadside Analysis

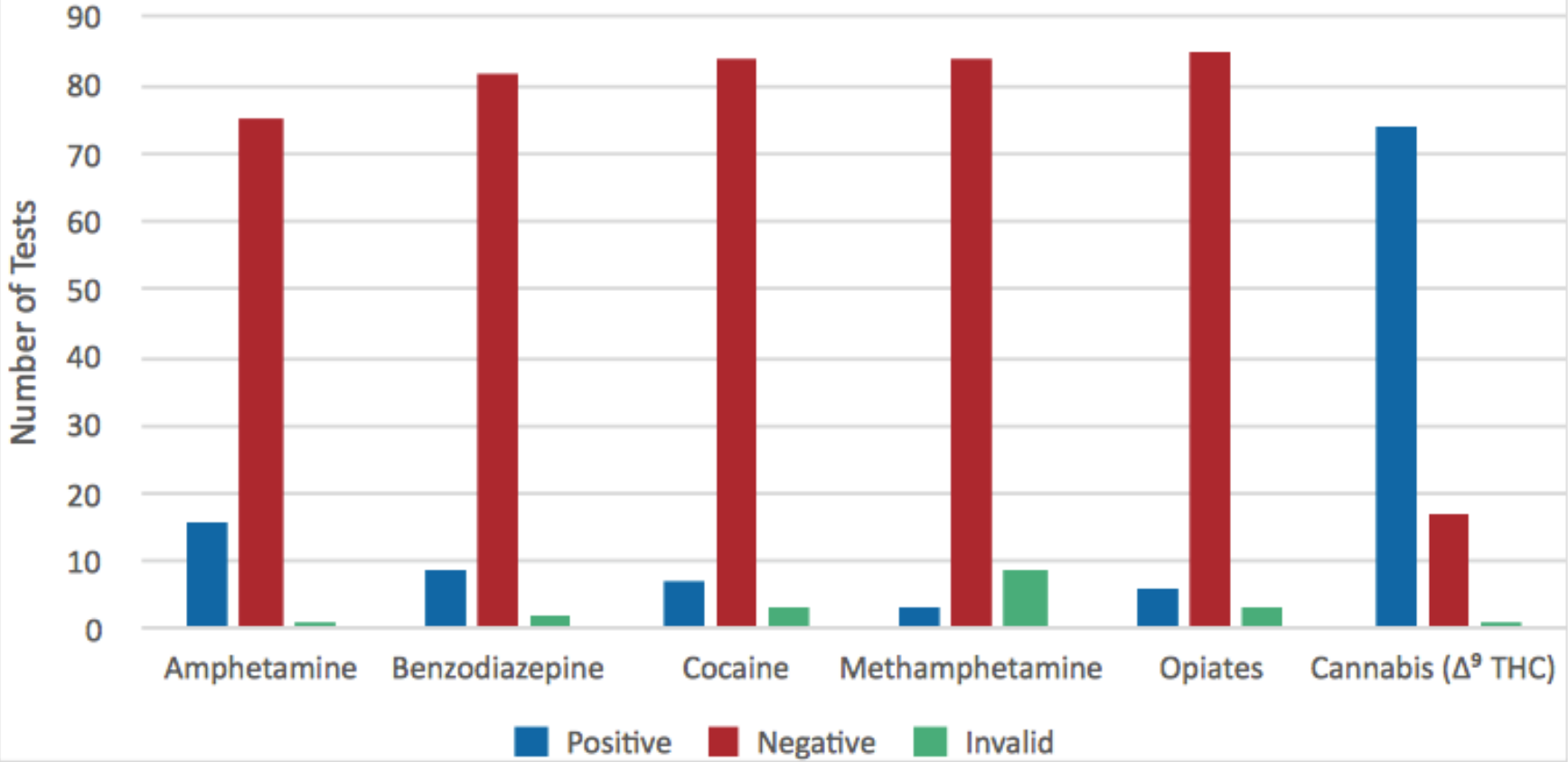
Substance	Cut-off in Whole Blood (ng/mL)	Cut-off in Oral Fluid (ng/mL)
Amphetamine	20	290
Cannabis (Δ^9 THC)	1.0	44
Cocaine	10	190
Methamphetamine	20	630

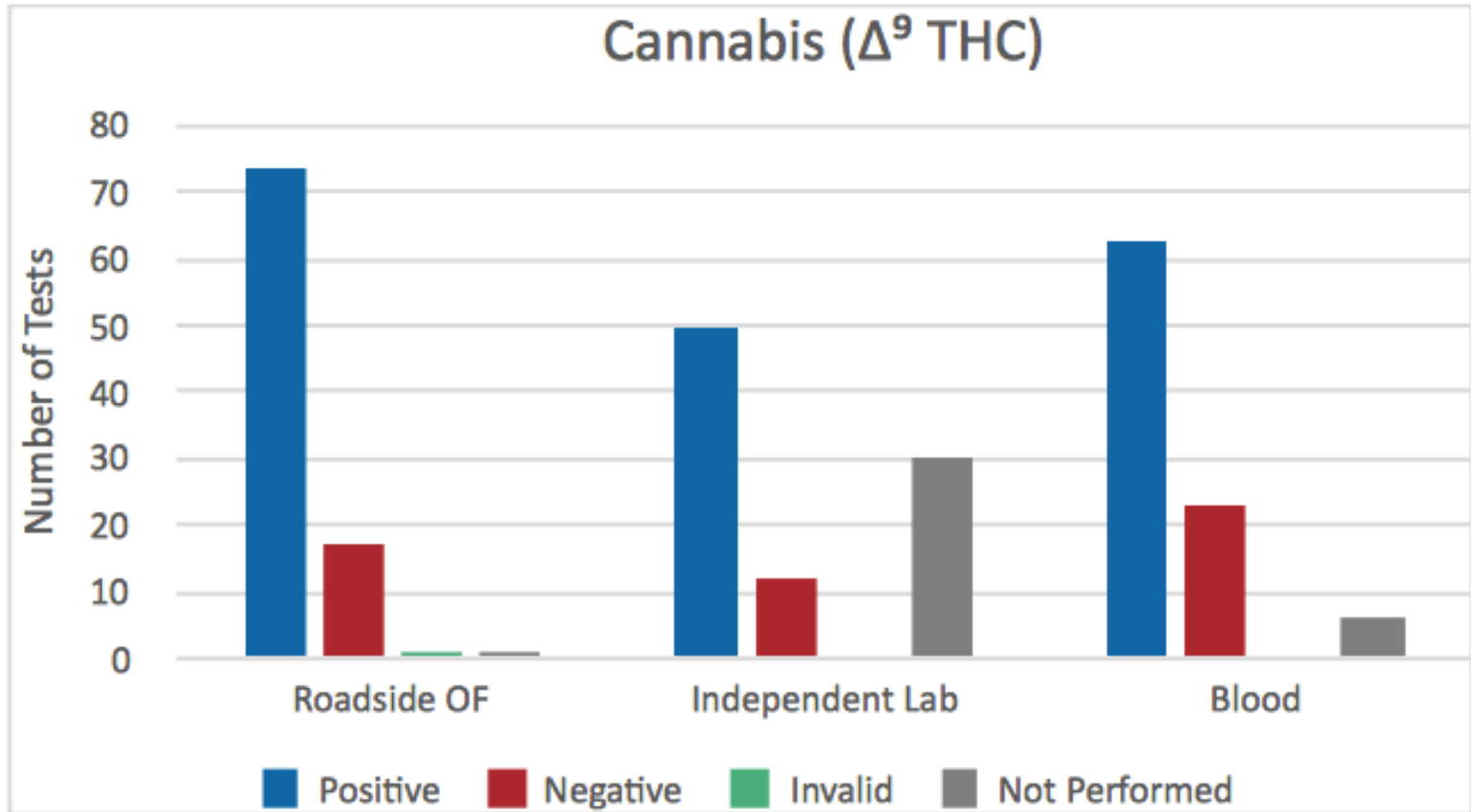
**Gjerde, Langel, Favretto & Verstraete, 2014*

1 ng/mL of THC in blood would be equivalent to approximately 44 ng/mL in Oral Fluid.

1. 92 Oral Fluid roadside tests were conducted
2. 89 drivers were arrested – 83 tested positive on Oral Fluid

Roadside Oral Fluid Test Results





Roadside Testing

Saliva drug test

- Tool within DRE war chest
- Rapid test results, typically within minutes
- Portable and easy to handle
- Limited drug test profiles
- Presumptive results (Qualitative, not Quantitative)
- Strong correlation between saliva and blood*



Why Oral Fluid

Saliva drug test

- Identification of active ingredient provides information on recent drug intake
- Most reliable detection after blood (biological fluid)
- Easy & accessible
- Minimally invasive and gender neutral
- Minimally invasive and can be administered at Traffic Stop



Oral Fluid barriers

Saliva drug test

- Lack of NHTSA standards (similar to PBT, EBT or BAIID) – Steps are being taken to develop formal standards but that is still years away
- Statute Limitations – Many States lack the language in Implied Consent Statutes to allow for Oral Fluid collection
- Lack of Agency buy-In – Law Enforcement agencies have to be convinced on the benefits or needs of OF testing



Oral Fluid barriers

Saliva drug test

- Limited test panel – Most roadside OF testers are limited 6 classes of drugs which are the most common
- False negatives – Relying solely on threshold limits maybe concerning since certain drugs metabolize quickly and may not be detected by OF
- Temperature – Usage of these testers outside the stated temperatures may cause high number of false positives



Oral Fluid barriers

Saliva drug test

- Admissibility in Court – OF results may be inadmissible based on the Frye/Daubert standard
- 4th Amendment issues – ACLU strongly oppose OF testing as it viewed as government intrusive to obtain DNA samples



How can this work for you

Scientifically accepted, reliable, defensible

- Appropriate collection of valid samples
- Established chain-of-custody
- Accurate test results
- Preservation of results
- Minimal false negative



California: Office of Traffic Safety

California initiated a roadside testing research project

- Easy, rapid collection at time of traffic accident
- Fast results (all devices run within 10 mins)
- Instrumentation reading (not visually read)
- Printed or stored test result (chain of custody)



Contact us

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