

Point of Contact Oral Fluid Screening Devices

-an update from
Canada



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Purpose

- ❑ Test a small number of most promising oral fluid drug screening devices to determine their adequacy for potential use in the enforcement of drug-impaired driving in Canada
- ❑ Develop standards for devices that manufacturers must meet to be able to sell their device in Canada
- ❑ **NOT** a test of specific devices

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DEVICES SELECTED

- Alere DDS 2
- Dräger DrugTest 5000
- Securetec DrugWipe 6S





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Field Oral Fluid Collection

- ❑ 646 samples collected from 300 subjects in PHX and JAX
- ❑ During DRE certs (with thanks to FL, SC, LA)
- ❑ Samples tested on site with one of the three devices
- ❑ Many samples were positive for more than one drug
- ❑ A second sample was collected and sent to NMS labs for confirmatory analysis
- ❑ Drugs tested for:
 - Cannabis (THC)
 - Cocaine (+benzoylecgonine)
 - Amphetamine
 - Methamphetamine
 - Opioids
 - Benzodiazepines

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Test Results and Performance Measures

		OF Laboratory Result		
OF Screen	Negative	Positive		Total
Negative	True Negatives (TN)	False Negatives (FN)		TN + FN
Positive	False Positives (FP)	True Positives (TP)		FP + TP
Total	TN + FP	FN + TP		TOTAL

Performance Measures

Sensitivity: The ability of the screening device to detect a drug if it is present

Specificity: The ability of the screening device will find no drugs if indeed there are no drugs present

Miss Rate: The extent to which the screening device will fail to detect a drug that is present

False Alarm Rate: the extent to which the screening device will indicate a drug when no drug is present

Positive Detection Rate: The proportion of times the screening device correctly identifies drug presence

Accuracy: The proportion of times the screening device correctly identifies the presence or absence of the drug

Performance Measures

	Sensitivity	Specificity	Miss Rate	False Alarm	PDR	Acc
All Drugs & Devices	.874	.932	.126	.068	.965	.892
THC	.869	.955	.131	.045	.922	.923
Cocaine	.846	.993	.154	.007	.990	.925
Amphetamine	.771	.964	.229	.036	.923	.895
Meth	.840	.965	.160	.035	.965	.899
Opioids	.899	.931	.101	.069	.795	.923
Benzo	.592	.976	.408	.024	.918	.856

OBSERVATIONS

- Laboratory work to look at issues such as sensitivity and cross reactivity did not go as planned.
- Confidential conversations with the various manufacturers revealed reasons as to why
- These reasons will be taken into consideration when writing the standards to ensure a level playing field for any manufacturer or distributor wishing to have their device tested to 'type'

STANDARDS

- Standards will provide clear direction to manufacturers and distributors as to what will be required of their devices
- Currently in process of defining and writing has started
- Process will be resource intensive for both the manufacturer and the Drugs and Driving Committee

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Our “take-home” points

- ❑ These devices only screen for a small number of the available illicit and licit drugs seen in Canadian drug impaired drivers
- ❑ Due to differences in detection cut-offs the ‘miss rate’ needs to be examined carefully
- ❑ For criminal proceedings a sample of blood will still need to be drawn and submitted to a Forensic Laboratory
- ❑ They are not impairment detectors
- ❑ **They do *not* remove the need for the Drug Recognition Experts**
- ❑ Oral fluid testing cannot be compared in scope or cost to breath testing for alcohol – they are very different beasts and we must accept that fact

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Future Steps

- ❑ Following up on informal work in the field we wish to move to Phase II which will see POC OF screening devices put into the hands of specific police agencies to gain their feedback on ease of use, durability, etc –hoping to start in next two months
- ❑ We know that police like things simple but that may not be the best option in dealing with the legal climate
- ❑ Per-se limits????

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QUESTIONS?

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