



Oral Fluid Screening for Impaired Drivers

Increases in drug and multi-substance impaired driving call for expanded drug testing among impaired driving suspects. For officers who lack specialized drug impairment detection training, oral fluid screening can aid in identifying drivers impaired by drugs who would otherwise escape detection.

How oral fluid field screening works. Oral fluid reflects presence of drugs in the blood, not impairment. It is collected and analyzed in under 10 minutes which is important as drug levels dissipate quickly while impairment remains. Oral fluid screening devices typically include an oral fluid collector (e.g., cartridge with pad) and a reader. Law enforcement officers obtain samples using the collector and insert them into the reader which determines drug presence by an objective reading of the test strip.

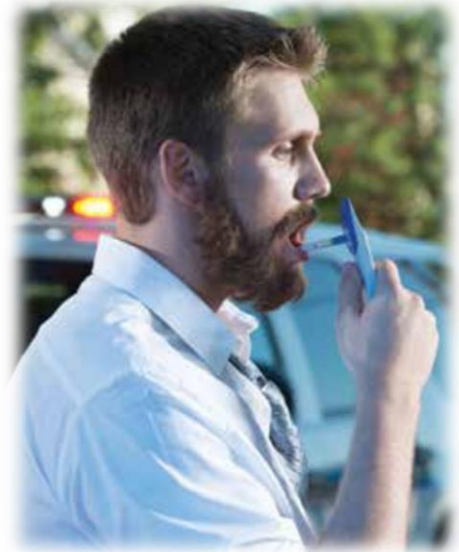
Oral fluid test devices screen for specific drugs or drug classes that commonly appear among impaired drivers [Tetrahydrocannabinol (THC), cocaine, methamphetamine, amphetamine, opioids, and benzodiazepines]. A positive result indicates recent drug use (within 24 hours) which is important because observations of impairment should be tied to recent consumption (i.e., not several days or weeks prior to arrest).

Oral fluid screening devices are like preliminary breath tests (PBTs) for alcohol and can be used to establish probable cause in combination with other evidence. At this stage, the officer has concluded a driver is impaired and unable to safely operate a motor vehicle. The oral fluid screen is used to identify what drug class(es) is/are likely causing the observed impairment. The devices indicate drug presence above established cut-off levels. They do not detect quantifiable drug levels and are not admissible in court as evidence. Only a confirmation sample (e.g. blood test), analyzed in a forensic laboratory, is used for evidentiary purposes.

Oral fluid screening device performance is variable and depends on the quality of the instrumentation. Therefore, agencies must be careful when determining which instruments to deploy in the field. Pilot testing is one option available to assess the overall accuracy of devices and obtain officer feedback about performance. The Society of Forensic Toxicologists (SOFT) offers [guidelines](#) for establishing oral fluid pilots.

Oral fluid screening offers the following advantages:

- Identifies presence of **recent drug use (within 24 hours)**;
- Easy, fast, gender neutral collections that are minimally invasive;
- No warrant required to collect samples;
- Demonstrated accuracy, sensitivity, and specificity;
- Results may support search warrant requests for additional chemical samples;
- Quick identification of both drug and multi-substance impaired drivers (including those with a BAC above .08);
- Admissible in certain hearings (e.g., probable cause);



- Creates option for administrative license suspension/revocation roadside for drug-impaired drivers; and,
- Creates deterrence when public knows law enforcement can identify drug use at roadside.

Research Highlights:

- The Driving Under the Influence of Drugs, Alcohol and Medicines (DRUID) project, a comprehensive European Union drugged driving study, included an evaluation of eight oral fluid screening devices. Of these, three devices correctly identified more than 80% of both drug-positive and drug-negative drivers (Schulze et al., 2012).
- An oral fluid study conducted in Miami-Dade County revealed the high rate of drivers who operate under the influence of both an illegal blood alcohol concentration (BAC) and drugs – approximately 39% of drivers with a BAC of .08 or above tested positive for drugs (Logan et al., 2014). Absent the oral fluid test, most offenders would not be tested for drug use and would avoid identification as multi-substance impaired drivers.
- A Vermont evaluation of two oral fluid screening devices found that the accuracy of both devices was over 90% (Logan & Mohr, 2015). False positive rates ranged from less than 1% to 4%.
- A Dane County, Wisconsin oral fluid pilot found results were consistent with the combined screening results observed in evidentiary blood samples. Like the Miami study, in Wisconsin, nearly 40% of the subjects with BACs exceeding 0.10, screened positive for one or more drug categories (Edwards et al., 2017).
- An oral fluid pilot study in Oklahoma determined that “oral fluid testing is a viable option both at the roadside and in a laboratory setting” (Veitenhemier & Wagner, 2017).
- The Michigan State Police five-county oral fluid pilot program yielded promising results: Of the 92 samples collected, 88 samples were confirmed by an independent laboratory and/or evidentiary blood test findings (Michigan State Police, 2019) which led to expansion of the program across the state. Findings of the statewide pilot will be published in early 2021.
- In its 2015 report on drug-impaired driving the Government Accountability Office (GAO) noted that the “development of an accurate roadside drug-testing device, comparable to breath sensors for alcohol detection could increase law enforcement officers’ ability to identify drivers who have used drugs.”

Prevalence:

Approximately [18 states](#) have some form of oral fluid authorization in statute. Oral fluid pilot studies have been conducted in many states including Alabama, California, Colorado, Florida, Kansas, Massachusetts, Michigan, Oklahoma, Oregon, Utah, Vermont, and Wisconsin. [Alabama’s program](#) is the first to establish a permanent oral fluid program used in both a screening and evidentiary capacity.

Oral fluid screening has been used internationally for many years: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Columbia, France, Germany, Ireland, Italy, The Netherlands, New Zealand, Poland, Portugal, South Africa, South Korea, Spain, Sweden, Turkey, United Kingdom, and Vietnam. Spain has one of the largest oral fluid programs in the world with more than 800 instruments actively deployed.

Responsibility.org Position:

Responsibility.org supports law enforcement use of oral fluid screening to quickly identify drivers under the influence of drugs and help establish probable cause in impaired driving cases. Currently, many drug and multi-substance impaired drivers avoid detection. Oral fluid technology will help identify these individuals and inform sentencing, supervision, and treatment decisions that take drug use into account. This technology should supplement existing processes and public education on oral fluid screening is essential to maximize deterrence of impaired driving.

References

- Alabama Department of Forensic Sciences. (2020). [Toxicology Oral Fluid Drug Testing Program](#).
- Edwards, L., Smith, K., & Savage, T. (2017). Drugged driving in Wisconsin: Oral fluid versus blood. *Journal of Analytical Toxicology*, 41(6), 523-529.
- Government Accountability Office (GAO). (2015). [Drug-Impaired Driving: Additional Support Needed for Public Awareness Initiatives](#). Washington, DC: Author.
- Logan, B., Mohr, A., & Talpins, S. (2014). Detection and prevalence of drug use in arrested drivers using the Dräger Drug Test 5000 and Affiniton DrugWipe oral fluid drug screening devices. *Journal of Analytical Toxicology*, 38(7), 444-450.
- Logan, B., & Mohr, A. (2015). [Final Report: Vermont Oral Fluid Drug Testing Study 2015](#). PA: Center for Forensic Science Research & Education.
- Michigan State Police. (2019). [Oral Fluid Roadside Analysis Pilot Program](#). Lansing: Author.
- Schulze, H., Schumacher, M., Urmeew, R., et al. (2012). *DRUID Final Report: Work Performed, Main Results and Recommendations*. Bergisch Gladbach, Federal Republic of Germany: Federal Highway Research Institute (BAST).
- Society of Forensic Toxicologists (SOFT). (2014). [Oral Fluid Pilot Project Guidelines](#).
- Veitenheimer, A., & Wagner, J. (2017). Evaluation of oral fluid as a specimen for DUID. *Journal of Analytical Toxicology*, 41(6), 517-522.

For additional background and legal analysis, refer to:

Flannigan, J., Moore, C., & Talpins, S. (2017). Oral fluid testing for impaired driving enforcement. *Police Chief Magazine*, Jan 2017, 58-63. Accessible [here](#).

For answers to frequently asked questions about oral fluid screening, refer to this resource created by the Society of Forensic Toxicologists' Oral Fluid Subcommittee: http://soft-tox.org/files/2018%20OF_FAQ_FINAL.pdf