



# NHTSA

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

## Oral Fluid Testing for Drugs

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# Agenda

- Detection of Presence of a drug vs Determination of Impairment
- Arrest Process, including Oral Fluid Testing
- Types of Oral Fluid Testing
  - On-Site and Laboratory
    - Benefits and Cautions

# Drugs and Traffic Safety

- Wide range of substances with potential to impair driving-related skills.
- “Drugs” include alcohol, over-the-counter and prescription medications, and illegal substances
  - Any of these can be used to excess or inappropriately
  - And impact body and behavior in countless ways
- Alcohol is a unique drug, and using the alcohol model in traffic safety for thinking about other drugs is like putting a Square Peg into a Round Hole



# Impairment

Unlike for alcohol,


- There is no simple biological test for any drug that provides an accurate indication of impairment
- Specific drug concentration levels cannot be reliably equated with effects on driver performance

# Drug Testing in Traffic Safety

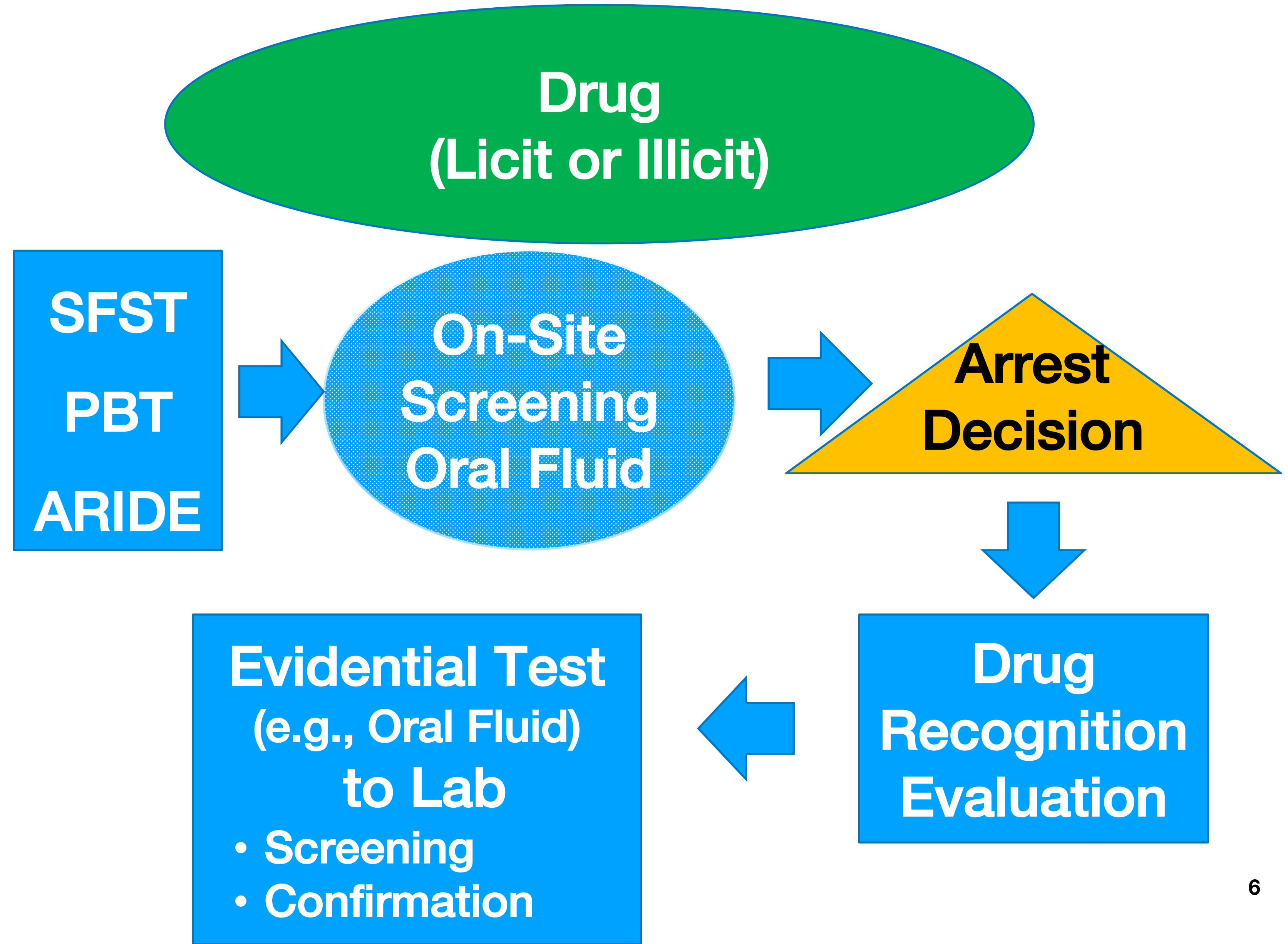
- Used in an impaired driving investigation, especially if alcohol has been ruled out –
- To determine presence of a drug
  - Sometimes (but not all times) the amount of the drug
- Drug test result is separate information from determination of impairment

# Officer Determines If Impairment

**Driving Behaviors**



**Personal Contact Interview**



# On-Site (Point of Contact) Drug Screening Devices

## Benefits

- Can be used at roadside (but likely not), or police station, or sobriety checkpoint – close in time to driving is important
- Tests for drugs of most interest for impaired driving
- Results within minutes
- Relatively inexpensive
  - Testing Device
  - Individual Swabs/Cassettes
- Can allow police to narrow focus for lab testing

## Cautions

- Provide initial **Screen** of presence of a *category* of drug. These types of devices **cannot Confirm** presence of a drug; nor provide amount of drug.
  - They are NOT of evidential quality. Still need to do separate sample sent to lab for testing
- Some substances are cross-reactive to other substances; this can result in *False Positive* results
- There can also be *False Negative* results
- Devices vary on which drugs they test for; and detection thresholds vary
  - Drug of interest may not be included

# On-Site Drug Test Devices

These types of screening devices are an additional tool in law enforcement's toolbox.

*They do not replace established law enforcement practices for identifying, engaging, and arresting impaired drivers.*

# Laboratory Testing of Oral Fluid Samples

## Benefits

- Accurate
- Initial Screening test –
  - IF positive, then a more complex test is conducted to **confirm substance**, and determine amount.
    - Gas or liquid chromatography – mass spectrometry (GC/MS) (LC-MS)

## Cautions

- Expensive
- Some drugs require complex (and very expensive) equipment; trained laboratory professionals
  - May be backlog
- Detection thresholds vary
- Drug of interest may not be included

# Drug Testing Recommendations and Standards

National Institute on Standards and Technology (NIST)

Organization of Scientific Area Committees for Forensic Science

***Standard for the Analytical Scope and Sensitivity of Forensic Toxicology Testing in Impaired Driving Investigations***

[https://www.nist.gov/system/files/documents/2019/05/10/chemsac-tox -  
\\_scope\\_sensitivity\\_for\\_duid - for asb and website.pdf](https://www.nist.gov/system/files/documents/2019/05/10/chemsac-tox_-_scope_sensitivity_for_duid_-_for_asb_and_website.pdf)

National Safety Council Alcohol and Drug Impairment Division

***Recommendations for Toxicological Investigations of Drug-Impaired Driving and Motor Vehicle Fatalities – 2017 Update***

<https://pubmed.ncbi.nlm.nih.gov/29186455/>

# If Considering an On-Site Device

- Check which drugs it can detect – appropriate for your needs?
- Check detection thresholds – appropriate for your needs?
- Officer training – is this included in your rollout plan?
- Evaluation of device performance – does the device meet your needs?

# Resources

NHTSA Drugged Driving Information

<https://www.nhtsa.gov/risky-driving/drug-impaired-driving>

Limitations of Drug Test Information, Reporting, and  
Testing Practices in Fatal Crashes

<https://rosap.ntl.bts.gov/view/dot/40777>

Drug-Impaired Driving: Understanding the Problem and  
Ways to Reduce It: A Report to Congress

<https://rosap.ntl.bts.gov/view/dot/1949>

Marijuana-Impaired Driving – A Report to Congress

<https://rosap.ntl.bts.gov/view/dot/34995>



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