

Reservoir Matrices

Specimen types known as reservoir matrices:

- **Fingernail**
- **Hair**
- **Urine**
- **Meconium**
- **Umbilical Cord**

We define reservoir matrix as a material or substance which can accumulate and retain drug and alcohol biomarkers.

When a person uses drugs or alcohol, there is an ongoing process of biomarker absorption and loss.

Build-up and break-down of drug and alcohol biomarkers happens at the same time, making it impossible to accurately determine the amount of substance ingested.



Factors that can affect how much of a substance may get trapped in a reservoir matrix:



Age



Body Mass



Overall Health



Personal Metabolism



Time



Frequency



Amount

Windows of Detection

Fingernail

Up to 6 Months for Drugs
Up to 3 Months for Alcohol

Hair

Up to 3 Months

Urine

2-3 Days

Meconium

Up to 20 Weeks

Umbilical Cord

About 20 Weeks¹



Attempting to determine the amount, manner, or timing of the substance ingested from the test results is speculation at best. Care should be taken to avoid these interpretations.

1. Montgomery D, Plate C, Alder SC, Jones M, Jones J, Christensen RD. (2006) Testing for fetal exposure to illicit drugs using umbilical cord tissue vs meconium, J Perinatol, 26(1):11-4.



It's no longer 1986. Why is the industry still drug testing like it is?

1986 vs Today

In 1986, the 5-panel urine drug test was introduced, testing for cocaine, marijuana, phencyclidine, amphetamines, and opiates. The realm of drug and alcohol toxicology has changed in the last 30 years. Today, USDTL offers customized panels with over 50 drug and alcohol biomarkers.

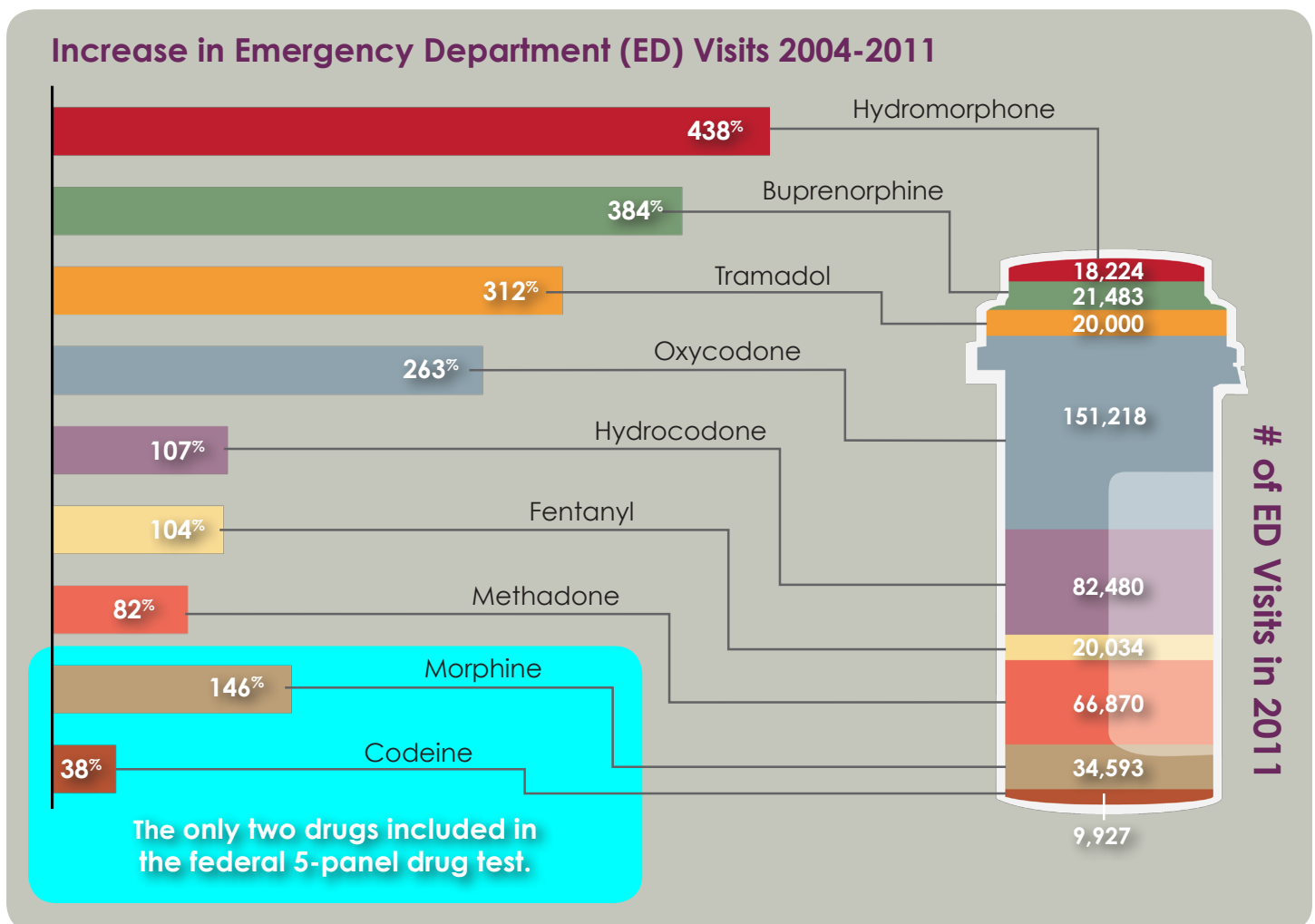
The Shifting Landscape of Opiate and Opioid Abuse

The need for opiate and opioid drug testing has grown in the last three decades. 2.4 million people in the United States abused opioid pain relievers in 1985, the year before President Ronald Reagan announced his Federal

Drug-Free Workplace Program.¹ That number swelled to 4.9 million - a 104% increase - by 2012.² During that same time, the population of the United States grew only 32%.

The original opiate testing panel created in 1986 is an incomplete tool for today's drug testing needs. No other category of drugs has evolved as much as opiates and opioids. Addiction to high strength pain relievers and newer opioid compounds has eclipsed codeine, morphine, and heroin addiction addressed by the original 1986 five-panel drug test.

Based on the most recent data on emergency department visits related to illicit substance abuse, it is clear that opiate and opioid abuse has shifted dramatically.



References:

1. United States Department of Health and Human Services. National Institutes of Health. National Institute on Drug Abuse. National Household Survey on Drug Abuse, 1985. ICPSR06844-v3. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2013-06-19.