

The Essentials of Urine Drug Screens

Drug screenings play a vital role in patient care and can help pharmacists aid in a diagnosis, document adherence and potentially identify diversion of a substance. The tips below provide reminders on how to interpret urine drug screens including the cross reactivity of different substances.



Reasons for Unexpected Results



Positive

- Use of illicit drug or non-prescribed medication
- False positive/cross reactivity
- Contamination



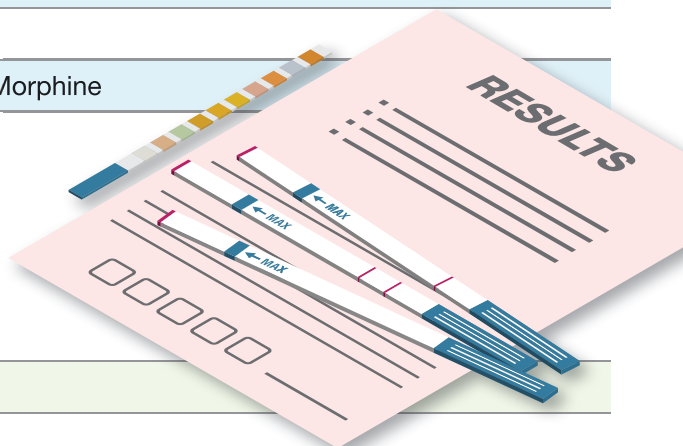
Negative

- Has not used recently (uses PRN, ran out early)
- Test does not detect specific medication (e.g., synthetic opiates)
- High cutoff values
- Fast metabolizer
- Diversion
- Laboratory error
- Tampering of sample or dilution of urine



Expected Metabolites for Opioids with Confirmation Testing

SUBSTANCE	POSSIBLE URINARY METABOLITES ON CONFIRMATION TESTING (e.g., GC/MS)
Morphine	Morphine; Hydromorphone (minor metabolite)
Codeine	Codeine; Morphine; Hydrocodone (minor metabolite)
Hydrocodone	Hydrocodone; Hydromorphone
Hydromorphone	Hydromorphone
Heroin	6- Monoacetylmorphine (6-MAM); Morphine
Oxycodone	Oxycodone; Oxymorphone



Evaluation of Urine

Urine creatine	> 20 mg/dl
Specific gravity	> 1.002
pH	4.5 – 8.0
Temperature	32 - 38 °C (89.6 – 100.4 °F)
Appearance	Yellow, free of bubbles or abnormal smells



Potential Positive Results with Immunoassays and Detection Time in the Urine

SUBSTANCE	POTENTIAL POSITIVES	LENGTH OF TIME DETECTED IN URINE
Amphetamines	l-methamphetamine (Vick's® Inhaler) Amantadine Aripiprazole Atomoxetine Bupropion Chlorpromazine Desipramine Ephedrine Labetalol Methylphenidate MDMA Phentermine Promethazine Pseudoephedrine Phenylephrine Ranitidine Selegiline Thioridazine Trazodone	48 hrs
Benzodiazepines	Oxaprozin Sertraline	Short acting – 3 days Long acting > 30 days
Cocaine	Coca leaf products Topical anesthetics containing cocaine	2-4 days
Opiates	Dextromethorphan Quinine Quinolones Rifampin	2-3 days
Marijuana	Baby wash products Dronabinol Efavirenz NSAIDS Pantoprazole	Single use – 3 days Chronic heavy use > 30 days
Methadone	Diphenhydramine Doxylamine Verapamil	3 days
PCP	Dextromethorphan Diphenhydramine Doxylamine Ibuprofen Imipramine Ketamine Lamotrigine MDPV Meperidine Tramadol Venlafaxine	8 days
Synthetic Cannabinoids	Lamotrigine	3 days

References

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