

URINE DRUG TESTING QUICK REFERENCE



WHAT YOU NEED TO KNOW

- The detection time of most drugs in urine is 1 to 3 days, but is longer if the drug is lipophilic*.

	Cutoff (ng/mL)	Days
Amphetamine	1000	≤5
Cannabinoids*		
moderate smoker (4x/week)	50	5
heavy smoker (daily)	50	10
chronic smoker	50	≤28
Benzoyllecgonine after street doses of cocaine	300	2-3
Opiate (eg, morphine, heroin)	2000	1-2
Phencyclidine*	25	8
chronic users	25	≤30

These guidelines are general; interpretation of detection time must take account of variability of urine specimens, drug metabolism & half-life, patient's physical condition, fluid intake, method, & frequency of use.

- The two major types of UDT are immunoassays & GC/MS or HPLC
 - Semisynthetic/synthetic opioids are not reliably detected by opiate immunoassays:

Natural (from opium)	Semisynthetic† (derived from opium)	Synthetic† (man-made)
<ul style="list-style-type: none"> ▪ codeine ▪ morphine ▪ thebaine 	<ul style="list-style-type: none"> ▪ hydrocodone ▪ oxycodone ▪ hydromorphone ▪ oxymorphone ▪ buprenorphine 	<ul style="list-style-type: none"> ▪ meperidine ▪ fentanyl series ▪ propoxyphene ▪ methadone

†Opioids not resulting in morphine or codeine in urine.

- Specify GC/MS or HPLC for patients taking opioids.
- A therapeutic drug level may fall below a test's cutoff.
 - Do not assume a negative result means "no drug present."
 - Ask for "no threshold" testing (LOD), **especially when testing for a semisynthetic or synthetic opioid.**
- There is no direct relationship between dose & urine drug concentration.

BEFORE YOU ORDER A TEST

- Ask the patient:
 - Are you taking any prescribed, OTC, or herbal drugs?
 - When was the last dose/quantity?
 - Drug abuse/addiction history.
- Let the laboratory know what you are looking for:
 - Illicit substance.
 - Prescription drug misuse.
 - Presence of prescribed medication.

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PRACTICAL STRATEGIES

- Establish routine UDT immunoassay panel, which generally identify drug classes.
 - Recommended immunoassay screens are:
 - Cocaine
 - Amphetamines (including ecstasy)
 - Opiates
 - Methadone
 - Marijuana
 - Benzodiazepines.
 - Additional tests, as needed.
- Specific drug identification:
 - GC/MS or HPLC for all patients prescribed opioids, especially semisynthetic or synthetic opioids.
 - Specify “no threshold” (LOD) to increase likelihood of detecting prescribed medications.
- Specimen collection:
 - Random collection preferred.
 - Unobserved specimen collection usually acceptable.
 - Suspect tampering if urine characteristics are not consistent with normal human urine, which should have:
 - Temperature 90°F - 100°F
 - pH 4.5 - 8.5
 - Creatinine >20 mg/dL (<20 mg/dL=dilute).
- UDT results:
 - Anticipate what you will do with results.
 - Consult with laboratory regarding ANY unexpected results.
 - A positive UDT result reflects recent drug use.
 - Schedule appointment to discuss abnormal/unexpected results with patient.
 - Use results to strengthen physician-patient relationship & support positive behavior change.
 - The presence of addiction does not preclude the existence of pain.
 - Document results & interpretation.

GC/MS=gas chromatography/mass spectrometry;
HPLC=high-performance liquid chromatography;
LOD=limit of detection; **OTC**=over-the-counter;
UDT=urine drug test