

Compass Opioid Stewardship in Practice

Microlearning Series



Sustainable Healthcare Transformation

Module 8: Urine Toxicology Testing (Part 2)

Welcome to Compass Opioid Stewardship in Practice. Each week, our Compass coaches will explore a real-world case, define a clinical goal, and walk through practical strategies to improve care. Whether you're tuning in via video, audio, or reading the summary, this session is built for busy clinicians like you.

This week's session is brought to you by Dr. Josh Blum, MD; Clinical Coach in the Compass Opioid Stewardship Program.

Case Presentation

This week's case is about a patient, Tania, a 37-year-old female with chronic pain from lupus vasculitis and peripheral neuropathy. She has episodes of severe abdominal pain and describes intermittent electrical sensations in her legs and feet. Medications include hydroxychloroquine and azathioprine for lupus, duloxetine and bupropion for depression, and meloxicam, gabapentin and lidocaine patches for pain. For severe pain she uses hydrocodone/acetaminophen 10 mg/325 mg, 1-2 tablets every 4-6 hours, and is prescribed 84 tablets every 28 days. She fills this medication on time every 4 weeks and has never requested early refills. On further questioning she reports having "a drink or two" with dinner most evenings and sometimes before bed to help with sleep. Recent random urine toxicology immunoassay testing was negative for opiates and positive for amphetamines.

Goal

Our clinical goal is to discuss specific testing strategies for patients on long-term opioid therapy.

Achieving our Goal

Opioid Risk Assessment

Types of opioid-related risk

- Risks can be broadly divided into:
 - Respiratory depression or accidental overdose
 - Opioid misuse and development of opioid use disorder

Tania's risk factors

- She has risk factors for both categories:
 - Concomitant use of a potentially sedating medication (gabapentin)
 - Underlying lupus, which may be associated with cardiopulmonary or renal disease that increases complication risk
 - Younger age
 - Presence of a major mood disorder
 - Regular alcohol use, increasing risk for both accidental overdose and substance use disorder

Interpreting Tania's Urine Toxicology Results

Opiate screening

- Because Tania is prescribed hydrocodone, screening with an opiate immunoassay is appropriate.
- This assay detects:
 - Naturally occurring opioids (morphine, heroin, codeine)
 - Often hydrocodone and hydromorphone
- Semi-synthetic (e.g., oxycodone) and fully synthetic opioids require additional screening or confirmatory testing.

Negative opiate result

- A negative result could reflect:
 - A true negative, or
 - Drug levels below the assay's limit of detection
- Confirmatory testing is helpful, but discussion with the patient is essential:
 - Clarify when the medication was last taken
 - This is especially important for PRN rather than scheduled use

Positive amphetamine result

- This result is challenging to interpret:
 - May indicate illicit or non-prescribed stimulant use
 - May represent a false positive due to bupropion, a known issue with immunoassays
- Confirmatory testing and patient discussion are necessary to clarify the finding
- If uncertain about confirmatory test options, consult your local lab director, who can help guide test selection and interpretation

Benzodiazepines: A High-Risk Combination

- Benzodiazepines substantially increase overdose risk when combined with opioids.
- Standard benzodiazepine immunoassays:
 - Detect diazepam and related agents (e.g., lorazepam, temazepam)
 - Do not reliably detect clonazepam or alprazolam
- Clinicians should clarify with their lab the sensitivity of their specific assay for common benzodiazepines

Alcohol Screening

- Alcohol is often overlooked in toxicology screening despite its additive risk for respiratory depression.
- Limitations of standard testing:
 - Urine alcohol testing has a short detection window (~12 hours)
- Recommended alternatives:
 - Ethyl glucuronide (EtG) and ethyl sulfate (EtS):
 - Detect alcohol use for up to ~3 days
 - Highly sensitive and specific when both are positive
 - Phosphatidylethanol (PEth) testing:
 - Estimates quantity and frequency of alcohol use over ~2 weeks
 - Blood-based test, eliminating chain-of-custody concerns

Fentanyl Screening

- Adding fentanyl immunoassay testing is essential for patient safety.
- Illicit fentanyl is widespread in U.S. communities.
- Patients may unknowingly be exposed when supplementing prescription opioids with street-purchased pills believed to be oxycodone or hydrocodone.

Clinical Pearls

The clinical pearls we want you to remember are:

- Understand the limits of your testing strategy, and send confirmatory testing when screening immunoassay tests aren't clear or if you suspect false positive or false negative results
- Don't hesitate to reach out to your local lab director or the vendor of your specific test for help with developing a testing strategy or for help with test interpretation
- Make sure your benzodiazepine testing strategy evaluates the commonly used drugs from this class
- Use ethyl glucuronide and ethyl sulfate testing to screen for alcohol use, and the Peth test may be helpful for quantifying use and therefore risk
- Screen for illicit fentanyl exposure, either accidental or intentional, in all patients on long-term opioid therapy

Thank You

This education has been brought to you through the generous support of the Centers of Medicare and Medicaid Services. Thanks for reading this week's Compass Opioid Stewardship in Practice Microlearning Series. Thank you for being part of the Compass Opioid Stewardship Program. And thank you for all you do caring for your patients.