Urine drug testing (UDT) is an important tool used to assist physicians who treat patients with chronic pain. To help provide laboratory medicine practice guidelines, a multidisciplinary committee of clinical laboratory professionals, clinicians, and other clinical experts performed a systematic literature search of over 7,000 peer-reviewed articles. From this systematic review, both evidence-based and consensus-based recommendations were presented for the use of urine drug tests for relevant over-the-counter medications, prescription and non-prescription drugs, and illicit substances in pain management patients.

Learn More

To access the full recommendations, visit:
www.aacc.org/-/media/Files/Science-and-Practice/Practice-Guidelines/Pain-Management/LMPGPain-Management20171220.pdf

ARUP Consult® Clinical Toxicology Testing topic:
www.arupconsult.com/content/clinical-toxicology-testing

Reference

Langman L, et al. Laboratory Medicine Practice Guidelines: Using Clinical Laboratory Tests to Monitor Drug Therapy in Pain Management Patients. https://www.aacc.org/-/media/Files/Science-and-Practice/Practice-Guidelines/Pain-Management/LMPGPain-Management20171220.pdf (accessed on May 10, 2018).

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Using Clinical Laboratory Tests to **Monitor Drug Therapy in Pain Management Patients**

A summary of the AACC Academy Laboratory Medicine Practice Guidelines.

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These recommendations address the following topics:

1) To test or not to test...and when

- Testing is an important part of patient care and effective at detecting drug use, but not necessarily other outcomes.
- Testing should be performed at baseline (prior to prescribing controlled substances) and to monitor compliance.
- Testing should be random (non-scheduled).
- Testing frequency is based on patient risk (history of past substance abuse/addiction, aberrant behaviors, and opioid risk screening criteria).

2) Which substances to test—a tiered approach

- Tier I: Routine monitoring, including the following drug classes: amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, and opiates/opioids.
- Tier II: High-risk patients with known history of abuse for particular medication. Use is endemic to local region, risky polypharmacy, multiple providers, or if prescribed and patient shows lack of efficacy or toxicity. May not be necessary to test all patients. Includes: alcohol, anticonvulsants, antidepressants, synthetic cathinones, antitussive, dissociative anesthetic, hallucinogens, muscle relaxants, narcotic pain-relievers.
- Tier III: As clinically indicated. Tailored to specific patients.
- **Note:** Drugs listed in guidelines are not meant to be a comprehensive list. The provider should take into account patient-specific medication information, knowledge of other accessible or locally abused drugs, and the patient's clinical presentation when selecting which tests to order.

3) Which specimen to test

- Urine is the preferred specimen for routine monitoring.
- Serum or plasma is an acceptable alternative for dialysis patients. Blood should be collected prior to dialysis.
- Insufficient published evidence for or against alternate specimens (e.g., oral fluid, hair).

4) Why specimen validity testing is important

One disadvantage of urine testing is the potential for sample adulteration. Overhydration, either intentional or unintentional, is a common form of adulteration and can result in false-negative results.

- Specimen validity testing is important for accurate interpretation of **every** specimen.
- Perform pH and temperature stability testing within 5 minutes of collection.
- Laboratory should measure creatinine or specific gravity and make extended adulterant testing available.

5) What do different laboratory methods mean

- Different analytical methods are defined as presumptive, screen, targeted, confirmation, or definitive. They may also be classified as qualitative, semi-quantitative, or quantitative.
- These definitions affect CPT billing codes
- Liquid chromatography tandem mass spectrometry (LC-MS/MS) and gas chromatography mass spectrometry (GC-MS) are often assumed to be definitive but the definition also depends upon assay design.

6) How to test

- First-line definitive testing is preferred because of sensitivity and specificity.
- If immunoassays are used, limitations of testing should be understood and clearly communicated (e.g., potential for false positive and false negative results, limitations for detecting specific compounds within a drug class).
- Confirm any immunoassay result that is not consistent with clinical expectations.

7) Are quantitative results necessary

- Results do not have to be quantitative to meet most clinical needs.
- Quantitative results should not be used to evaluate dosage.
- Quantitative results may be useful in complex cases.

8) How to interpret test results

- Reporting should adhere to standards of relevant regulatory agencies.
- Reporting should be clear and simple.
- Reports should provide alerts when odd patterns are observed that could affect interpretation, but do not over-interpret (e.g., estimate time of last dose).

9) When to get assistance with interpretation

- Providers should contact the laboratory with results that are inconsistent with the clinical picture and/or prescribed medications.
- Laboratories should provide educational tools and knowledgeable personnel who can assist with interpretations.
- The clinical laboratory is an important resource and healthcare partner.

To access the full recommendations, visit

www.aacc.org/-/media/Files/Science-and-Practice/Practice-Guidelines/Pain-Management/LMPGPain-Management20171220.pdf