

Prescribing Corner: Urine Toxicology Testing

Using this tool in practice

Urine Toxicology Testing or Urine Drug Screening (UDS) is an underutilized practice tool physicians can use to manage long-term opioid use for their non-cancer pain patients. This test can be part of an opioid risk assessment prior to initiating opioids and/or used to monitor compliance with patient opioid agreements for those already established on long-term opioids.

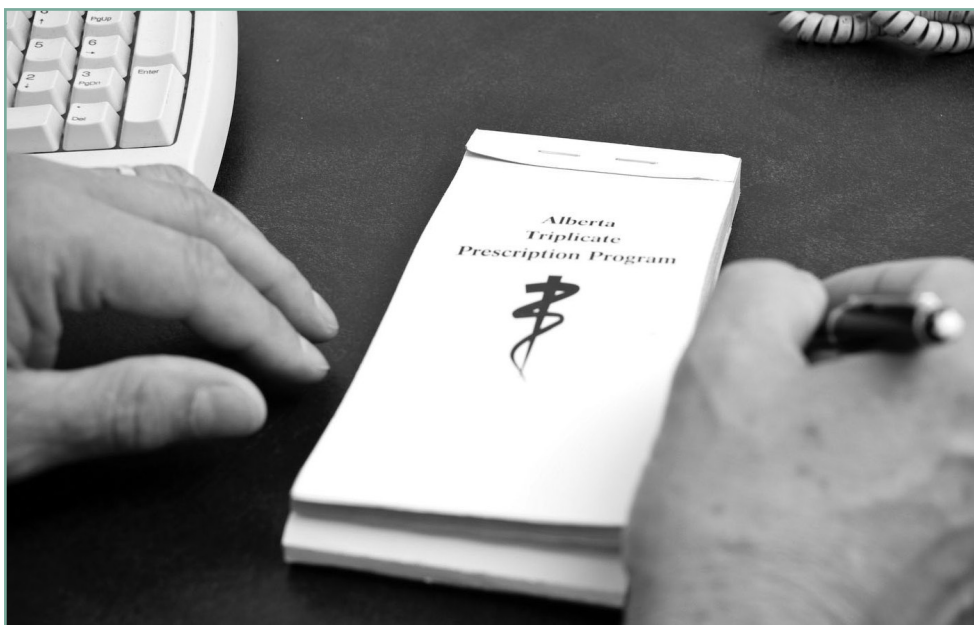
There is no clear consensus about how frequently to use UDS or which patients would benefit most from the testing. This leaves many physicians unsure how to use this valuable tool in their practices - most consider UDS for patients at high risk of opioid misuse or addiction.

Testing

There are two main components to UDS, screening and confirmatory:

- 1. Screening** –Immunoassay technology is used to detect drug classes or specific drugs. Screening tests may lack specificity. Positive results indicate the presence of the drug or metabolite in urine above the established cut-off concentration. Negative results reflect concentrations that fall below the cut-off and do not necessarily exclude the presence of the drug or metabolite. Immunoassay testing is not laborious, but may miss detecting some drugs such as meperidine and hydromorphone.
- 2. Confirmatory** –Gas chromatography and tandem mass spectrometry are more laborious and therefore, more costly. Confirmatory testing is more specific and reliably detects meperidine and hydromorphone. The period of time a drug can be detected in urine will vary between the two types of tests and be influenced by several other variables.

When ordering a UDS, it is important to include all the medications, includ-



ing over the counter medications and methadone, that your patient has taken in the past seven days. Be specific about which drugs you are looking for. If in doubt about what to order, call your lab personnel for advice. A working relationship with your testing lab is important for accurately interpreting UDS results.

For more detailed information about immunoassay versus gas chromatography, go to Appendix B-3 in the *Canadian Guideline for Safe and Effective Use of Opioids in Chronic Non-Cancer Pain*, located at <http://nationalpaincentre.mcmaster.ca/opioid/>².

Patient management

If you are planning to use UDS, it is important to discuss the purpose of this test with your patient and how you will use the results. The opioid agreement can be modified to include the requirement for random UDS as part of the treatment requirements. Patients should be advised that unexpected findings may result in discontinuation of opioid treatment.

When a UDS sample is collected at the lab, there are precautions in place to

prevent tampering. Supervised collection avoids this but is not always practical or desirable. Urine creatinine < 2-3 mmol/litre is non-physiologic and suggests dilution or excess consumption of fluids. Consider supervised collection if the patient has been known to tamper samples previously.

Interpretation of test results can be challenging and physicians should always consider the clinical context and patient circumstances before deciding on an action as a result of unexpected findings. If you are uncertain about interpretation of a UDS, consider contacting laboratory personnel or another physician with experience in UDS for assistance.

A summary table that addresses common unexpected results, possible explanations, and actions to consider, is available on the College website at www.cpsa.ab.ca under Programs & Services/Physician Prescribing Practices/Prescribing Corner. Related information is also available from Table B-3.1³ of the *Canadian Guideline for Safe and Effective Use of Opioids in Chronic Non-Cancer Pain*.

Prescribing Corner cont'd Pg. 9...

Prescribing Corner...cont'd from page 8

Becoming more familiar with UDS testing and results can strengthen the physician-patient relationship and support positive behavioral change.

Additional advice

The complete guideline and practice tools are available on the National Pain Centre website at McMaster University² or from the College website⁴. Practice tools can be downloaded or printed for clinical use.

If you have feedback or comments on this month's Prescribing Corner article, contact Dr. Susan Ulan, Senior Medical Advisor at: 780-969-4930, 1800-561-3899 ext. 4930 (in Alberta) or email Susan.Ulan@cpsa.ab.ca.

References:

¹ Heit HA, Gourlay DL. Urine Drug Testing in Pain Medicine. *Journal of Pain and Symptom Management*. 2004;27(3):260-267

² McMaster University; National Pain Centre website (<http://nationalpaincentre.mcmaster.ca/opioid/>)

³ Table B-3.1 http://nationalpaincentre.mcmaster.ca/opioid/cgop_b_app_b03.html

⁴ www.cpsa.ab.ca under Resources/Canadian Opioid Guideline

Thanks to Dr. Don LeGatt, Head of Toxicology and Therapeutic Drug Monitoring at the University of Alberta Hospital and Dr. Valerian Dias, Clinical Associate Professor, Pathology and Laboratory Medicine at the University of Calgary for their advice regarding the content of this article.

