



Opioids

INTRODUCTION

Misuse and abuse of prescription drugs, particularly opioids, is a growing social and medical problem nationwide. Approximately one million Americans are opioid dependant. In Utah, opioid-related deaths are more prevalent than deaths associated with auto accidents. Prescription drugs are known to be shared inappropriately among friends or family, have motivated many pharmacy robberies, and are at risk for being stolen and/or sold on the black market. Not surprisingly, control of prescription-drug trafficking is a major concern of the Drug Enforcement Administration and the United States Department of Justice.

In April 2011, officials from the United States Food and Drug Administration, the United States Department of Health and Human Services, and the Drug Enforcement Administration introduced President Obama's plan for curbing prescription-drug diversion and abuse. The plan seeks to expand state-based prescription-drug monitoring programs, recommends environmentally responsible drug-disposal methods, supports education for patients and healthcare providers, and directs law-enforcement resources to minimize "doctor shopping" (i.e., visiting several prescribers to obtain controlled substances). Routine drug testing of patients who receive chronic prescriptions for opioids is among the proposed recommendations to mitigate risk of drug misuse and abuse.

OPIOIDS AND PAIN MANAGEMENT

Opioids are drugs that produce analgesia through interaction with opioid receptors found in the central nervous system. Opioids include opiates, which are derived naturally from the opium poppy plant (e.g., codeine and morphine); semi-synthetic opiates (e.g., hydromorphone, hydrocodone, oxycodone, oxymorphone, and heroin); and fully synthetic opioids (e.g., fentanyl, methadone, tramadol, propoxyphene, buprenorphine, and meperidine).

All opioids are capable of producing tolerance and withdrawal. Tolerance is defined as a state of progressively decreased responsiveness to a drug, while withdrawal is defined as a constellation of symptoms that occur after a patient stops taking the drug. Opioids are associated with a variety of side effects such as constipation, nausea, somnolence, and dizziness. In overdose, opioids may contribute to life-threatening respiratory and neurological depression.

Furthermore, drug-drug and food-drug interactions affect the therapeutic dose, side effect profile, and elimination kinetics of opioids for an individual patient. These characteristics of opioid therapy present challenges regarding selection of optimal dose and long-term dose management for patients treated for chronic pain.

Despite limitations and challenges, opioids remain an important component of chronic pain management for many patients. However, recent studies suggest that up to 75 percent of patients are not compliant with prescribed therapy. Noncompliance increases the risks of drug misuse and abuse and compromises patient care. As such, physicians who prescribe opioids are obliged to manage prescribing practices to assure patient safety and pain control, and to avoid contributing to drug trafficking.

RESULTS INTERPRETATION

Results may be useful to detect:

- Compliance with prescribed opioids.
- Use of non-prescribed opioids.

Time periods of drug detection vary with specimen type and drug. Urine is the most commonly used specimen due to convenience of collection and because drug use can be detected for the longest period with urine. However, blood testing may be indicated when urine is unavailable or to support individual patient pharmacokinetic parameters (e.g., evaluate absorption and elimination kinetics).

- Results cannot always identify the formulation of drug used, the dose administered, or the specific time(s) of drug administration.
- Results may be useful for detecting specimen adulteration, such as adding parent drug directly to urine to mimic compliance with prescribed therapy.
- Dilution of urine specimens through overhydration (excessive intake of fluids prior to voiding) may compromise detection limits.
- Testing to evaluate compliance with non-opioid prescribed drugs that may also have potential for misuse and abuse (e.g. benzodiazepines) is available for both urine and blood; consult the laboratory for a complete list of testing options and associated limitations.

REFERENCES

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2. Couto et al. High rates of inappropriate drug use in the chronic pain population. *Pop Health Mgmt* 2009;12(4):185-90.

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