Rationale for Urine Drug Testing (UDT)

Help to identify drug misuse/addiction
- Prior to starting opioid treatment

Assist in assessing adherence during opioid therapy
- As requirement of therapy w/ an opioid
- Support decision to refer

UDT frequency is based on clinical judgment

Depending on patient’s display of aberrant behavior and whether it is sufficient to document adherence to treatment plan

Check state regulations for requirements
Main Types of UDT Methods

**Initial testing** w/ IA drug panels:
- Classify substance as present or absent according to cutoff
- Many do not identify individual drugs within a class
- Subject to cross-reactivity
- Either lab based or at POC

**Identify specific drugs** &/or metabolites w/ sophisticated lab-based testing; e.g., GC/MS or LC/MS*
- Specifically confirm the presence of a given drug
  - e.g., morphine is the opiate causing a positive IA*
- Identify drugs not included in IA tests
- When results are contested

* GC/MS = gas chromatography/ mass spectrometry  IA = immunoassay  LC/MS = liquid chromatography/ mass spectrometry
Detecting Opioids by UDT

Most common opiate IA drug panels

- Detect "opiates" morphine & codeine, but doesn’t distinguish
- Do not reliably detect semisynthetic opioids
- Do not detect synthetic opioids (e.g., methadone, fentanyl)

Specific IA panels can be ordered for some

GC/MS or LC/MS will identify specific opioids

- Confirm presence of a drug causing a positive IA
- Identify opioids not included in IA drug panels, including semisynthetic & synthetic opioids
- Lab can identify specific opioids at physician request
Interpretation of UDT Results

Positive result

Demonstrates recent use
- Most drugs in urine have detection times of 1-3 d
- Chronic use of lipid-soluble drugs: test positive for ≥1 wk

Does not diagnose
- Drug addiction, physical dependence, or impairment

Does not provide enough information to determine
- Exposure time, dose, or frequency of use

Negative result

Does not diagnose diversion
- More complex than presence or absence of a drug in urine

May be due to maladaptive drug-taking behavior
- Bingeing, running out early
- Other factors: e.g., cessation of insurance, financial difficulties
Interpretation of UDT Results, cont’d

Be aware

- Testing technologies & methodologies evolve
- Differences exist between IA test menu panels vary
  - Cross-reactivity patterns
    - Maintain list of all patient’s prescribed & OTC drugs
    - Assist to identify false-positive result
  - Cutoff levels
- Time taken to eliminate drugs
  - Document time of last use & quantity of drug(s) taken
- Opioid metabolism may explain presence of apparently unprescribed drugs
Examples of Metabolism of Opioids

- **Codeine** → **Morphine** → **6-MAM*** → **Heroin**
  - $t_{1/2} = 25-30$ min
- **Hydrocodone** → **Hydromorphone**
- **Oxycodone** → **Oxymorphone**

*Not comprehensive pathways, but may explain presence of apparently unprescribed drugs*

*6-MAM=6-monoacetylmorphine*
Interpretation of UDT Results

- Use UDT results in conjunction w/ other clinical information
- Investigate unexpected results
  - Discuss w/ the lab
  - Schedule appointment w/ patient to discuss unexpected/abnormal results
- Chart results, interpretation, & action
- Do not ignore the *unexpected* positive result
  - May necessitate closer monitoring &/or referral to a specialist

Be Ready to Refer

Be familiar w/ referral sources for abuse or addiction that may arise from use of ER/LA opioids

SAMHSA substance abuse treatment facility locator
http://findtreatment.samhsa.gov/TreatmentLocator/faces/quickSearch.jspx

SAMHSA mental health treatment facility locator