Wisconsin Opioid Project ECHO
Agenda

Zoom link to join from PC, Mac, iOS or Android**:** https://echo.zoom.us/j/156261634

Joining by phone ONLY: +1 646 558 8656 or +1 669 900 6833 (US Toll)
Zoom Meeting ID: 156 261 634

For attendance purposes please text the following code: JOWZAS to 608-260-7097

Session Date: Friday July 20, 2018

Didactic Topic and Presenter:
Drug Testing in Clinical Practice the Science and Art of Drug Monitoring, David Galbeis-Reig, MD, DFASAM

- 12:30 PM: Attendance text-in – Introductions
- 12:45 PM: Case #1 & discussion
- 1:00 PM: Case #2 & discussion
- 1:15 PM Didactic Presentation
- 1:30 PM: End of Mock Session

CONTINUING EUDCATION INFORMATION:

Accreditation Statement

In support of improving patient care, the University of Wisconsin–Madison ICEP is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Credit Designation Statements

The University of Wisconsin-Madison ICEP designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The University of Wisconsin–Madison ICEP designates this live activity for a maximum of 1.0ANCC contact hour(s).

The University of Wisconsin–Madison ICEP designates this live activity for 1.0 of CPE credit. Credit can be earned by successfully completing the activity, the assessment and the evaluation. Credit will be provided to NABP CPE Monitor within 60 days after the activity completion.
UAN: OCPD will provide Hours

Continuing Education Units

The University of Wisconsin–Madison ICEP, as a member of the University Professional & Continuing Education Association (UPCEA), authorizes this program for 0.1CEUs or 1.0 hour(s).

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

WI Opioid Project ECHO 2018-2020

Drug Testing in Clinical Practice

The Science and Art of Drug Monitoring
Friday July 20, 2018
David Galbeis-Reig, MD, DFASAM

Provided by the University of Wisconsin–Madison Interprofessional Continuing Education Partnership (ICEP)

Intended Audience:
Physicians, Physician Assistants, Nurses, Social Workers, Pharmacists and Counselors.

Objectives:
As a result of this educational regularly scheduled series, learners will be able to:

1. Review appropriate opioid prescribing and monitoring practices
2. Participate in office-based management of opioid use disorders
3. Seek overdose prevention education with greater frequency.
4. Identify the role of medication assisted therapies, such as methadone, naltrexone, and buprenorphine in the management of OUD

Policy on Disclosure
It is the policy of the University of Wisconsin-Madison ICEP that the faculty, authors, planners, and other persons who may influence content of this CE activity disclose all relevant financial relationships with commercial interests* in order to allow CE staff to identify and resolve any potential conflicts of interest. Faculty must also disclose any planned discussions of unlabeled/unapproved uses of drugs or devices during their presentation(s). For this educational activity, all conflicts of interest have been resolved and detailed disclosures are listed below.

** The University of Wisconsin-Madison ICEP defines a **commercial interest** as any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients The University of Wisconsin-Madison ICEP does not consider providers of clinical service directly to patients to be commercial interests.*

Name/Role	Financial Relationship Disclosures	Discussion of Unlabeled/Unapproved uses of drugs/devices in presentation?
David Galbeis-Reig, MD, DFASAM	No relevant financial relationships to disclose	No
Briana Kleinfeldt, RSS Coordinator	No relevant financial relationships to disclose	No
Randy Brown, RSS Chair	No relevant financial relationships to disclose	Yes
Maireni Cruz, Content Expert, Addiction Medicine Physician	No relevant financial relationships to disclose	No
Chris Nicholas, Content Expert, Psychology-SUD/Mental Health Counselor	No relevant financial relationships to disclose	No
Elizabeth Collier, Content Expert, Social Worker	No relevant financial relationships to disclose	No
Paul Hutson, Content Expert, Pharmacy	No relevant financial relationships to disclose	No
Ritu Bhatnagar, Content Expert, Psychiatrist	No relevant financial relationships to disclose	Yes
Melissa Ngo, Content Expert, Pharmacist	No relevant financial relationships to disclose	No
Susan Mindock, Content Expert, AODA Counselor	No relevant financial relationships to disclose	No
Sheila Weix, Content Expert, Nurse	No relevant financial relationships to disclose	No
Kim Sprecker, OCPD Staff	No relevant financial relationships to disclose	No

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

WI Opioid Project ECHO 2018-2020

Accreditation Statement

In support of improving patient care, the University of Wisconsin–Madison ICEP is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Credit Designation Statements

The University of Wisconsin-Madison ICEP designates this live activity for a maximum of 1.0 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The University of Wisconsin–Madison ICEP designates this live activity for a maximum of 1.0ANCC contact hour(s).

The University of Wisconsin–Madison ICEP designates this live activity for 1.0 of CPE credit. Credit can be earned by successfully completing the activity, the assessment and the evaluation. Credit will be provided to NABP CPE Monitor within 60 days after the activity completion. UAN: OCPD will provide Hours

Continuing Education Units

The University of Wisconsin–Madison ICEP, as a member of the University Professional & Continuing Education Association (UPCEA), authorizes this program for 0.1CEUs or 1.0 hour(s).

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Opioid & Addiction Treatment ECHO Patient Case Presentation

***Please do not attach any patient-specific files or include any Protected Health Information.**

1-Date: 7/20/18

2-Presenter: Elise Wessol, DO

3-ECHO ID: 7752

4-Have you presented this patient during this teleECHO clinic before? No

5-PLEASE STATE YOUR MAIN QUESTION FOR THIS PATIENT CASE: Discharge planning, relapse prevention, outpatient treatment?

Demographic Information:

6-Age: 25

7-Gender: Female

8-Education/Literacy: unknown

9-Income source: Prostitution

10-Insurance: none at this time

11- HPI: opioid overdose

12-Social History:

- Patient reports she began using opioids at 16 years old in the form of pills which progressed to snorting heroin to injection daily. She currently uses around a quarter daily. She also routinely smokes crack which began around the same time she started using heroin. She smokes “a couple grams" daily. Her last use of heroin and crack was 3 days prior to admission. She states that, prior to being brought to ED, she remembers walking around and a man trying to take off her pants and then she blacked out. She reports engaging in prostitution as a means to acquire heroin and crack. She states that she started using heroin to treat her depression, and her use escalated. She has tried multiple medications for depression, such as fluoxetine, but is currently not taking anything. She had been seeing a counselor 1 to 2 times a week as well. She reports she had been prescribed clonazepam for anxiety in the past which she found helpful. She reports emotional abuse from her ex-boyfriend. She denies physical and sexual trauma in her childhood and early adulthood.

- She maintained 2 years of sobriety when she had her daughter in 2013. Since then she was 3 and half months over when she went to jail and got an early July of this year but relapsed soon after. She currently has an open case against her for possession of heroin. Patient reports stress and the father of her baby (with whom she is not with) causing her to relapse. She currently lives with her boyfriend who is able to drive her to her appointments, etc. as needed.

- Alcohol and other substance use pattern sporadic and likely not contributory.

- Both her parents suffered from opioid and cocaine use disorders. She has witnessed her father overdose 3 times. Her 23-year-old sister is currently in jail for heroin possession and also suffers from opioid and cocaine use disorder. Patient reports she and her sister are not close at this time.

- Patient has been to a Madison methadone treatment facility where she was on methadone for a few months but then stopped because she "did not want to become reliant on methadone ". She tried Suboxone "years ago.". She has been to AA/NA in the past but found that the stories told at meetings trigger her. She has also met dealers from whom she has bought substances at meetings as well. She reports she is interested in stopping heroin and cocaine use. She is amenable to trying Suboxone again.

13-Housing: Lives with Significant other

14- **Substance Use History:**

- Nicotine 1 pack per day since 14 years' old
- Alcohol occasionally, last use 2 weeks ago, binges, "drinks anything "
- Heroin a quarter injected daily
- Benzos Has been prescribed clonazepam for anxiety in the past
- Cocaine smokes "grams" of crack daily
- Methamphetamine snorts or smokes occasionally, last use 1 week ago snorted med because it was free
- Cannabis rarely, has smoked 3 times over lifetime

15- Consequences of Substance Use:

- Social/occupational/educational: possession charges, jail time

- Physical (including evidence of tolerance/withdrawal): Hep c, heroin withdrawal

16- Behavioral Health Interventions that have been tried: AA/NA, counseling

17-Medications Tried for Relapse Prevention? (Specify): MMT, Suboxone

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

18-

Current Medications:	Medical/Behavioral Health Diagnosis:
• sertraline 25mg • flexeril • metronidazole • amoxicillin	• depression

19-

Patient Strengths/protective factors	Risk factors & Adverse Childhood Events
readiness to quit supportive SO who is willing to drive her to appt's, etc. Supportive father willingness to try Suboxone again child	parents with substance use d/o witnessed father OD on heroin 3x hx of emotional abuse depression

20- Describe any cultural factors that may have an impact on this patient's situation (e.g. beliefs about indigenous healing practices, cultural prohibitions of discussing illness, etc.):

None

21- Labs (as indicated): Include summary of urine testing or last urine drug screen result

- Hep C, AKI, opiate withdrawal, NSTEMI, UDS +cocaine, opiates, BAL below detection, acute liver injury, c diff
- (AST 1381, ALT 610, CK >32k, trop 0.68, procal 78, BUN 18, Cr 1.2, INR 1.3)
- Recently at OSH for opiate OD in early July

22-Prescription Monitoring Program Pertinent Findings:

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

23-Proposed Diagnoses:

- severe opioid use disorder
- severe cocaine use disorder
- comorbid depression
- PTSD

24-Patient Goals for Treatment:

- Sobriety, see her daughter

25- Proposed Treatment Plan:

- MAT, mental health counseling, residential tx
  Increase Setraline dosage—advice from ECHO experts.

By initialing here ___ew____ you have acknowledged that Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any ECHO clinician and any patient whose case is being presented in a teleECHO clinic.

DSM 5 Criteria for Substance Use Disorder

A use disorder is characterized by maladaptive use resulting in repetitive consequences over the previous 12 months. A minimum of 2-3 criteria is required for a mild substance use disorder diagnosis, while 4-5 is moderate, and 6-7 is severe (American Psychiatric Association 2013)

1. Taking the substance in larger amounts and for longer than intended
2. Wanting to cut down or quit but not being able to do it
3. Spending a lot of time obtaining the substance
4. Craving or a strong desire to use
5. Repeatedly unable to carry out major obligations at work, school, or home due to use
6. Continued use despite persistent or recurring social or interpersonal problems caused or made worse by use
7. Stopping or reducing important social, occupational, or recreational activities due to opioid use
8. Recurrent use in physically hazardous situations
9. Consistent use despite acknowledgment of persistent or recurrent physical or psychological difficulties from using
10. *Tolerance as defined by either a need for markedly increased amounts to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount. (Does not apply for diminished effect when used appropriately under medical supervision)

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

11. *Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal (Does not apply when used appropriately under medical supervision)

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Opioid & Addiction Treatment ECHO Patient Case Presentation

***Please do not attach any patient-specific files or include any Protected Health Information.**

1-Date: 7/20/18

2-Presenter: Ritu Bhatnagar

3-ECHO ID: 1787

4-Have you presented this patient during this teleECHO clinic before? Yes, 3/23/18

5-PLEASE STATE YOUR MAIN QUESTION FOR THIS PATIENT CASE:

Demographic Information:

6-Age: 40

7-Gender: Male

8-Education/Literacy: High school, unfinished bachelor degree in biology

9-Income source: unemployed since 2014 from IT work, lost job due to power attendance related to heroin use

10-Insurance: Medicaid

11- HPI:

12-Social History:

- Never married, no kids, was living alone, working, independent, ran into debt with use and job loss. Has 1 sister, married, with kids, close to her.

13-Housing: Lives with Parents

14- Substance Use History:

- Alcohol- problematic in past, started in high school, heavy drinker from 2002-2010. None since 11/2016.
- THC: experimented in the past, nothing current since 1990
- Cocaine and stimulants: in the remote past, last use early 2000s.
- Opioids: in 2008, when he started using pain killers off the street and from friends. He started off using pills of Vicodin and Percocet, then moved to OxyContin. Immediate sense of euphoria, energy and made him more able to get things accomplished. Started initially with oral use, then snorting the opioids. In 2009, accidental OD with snorting pain killers and first time heroin, hospitalized one day, and then returned to use after 9 months of no use with only counseling. At the end of 2010, started oxycontin, then again using heroin, and within a couple months, was using heroin intravenously.
- Current pattern: usually 0.5 g IV heroin, sometimes spread through the day, sometimes all at once.
- Has continued with attempts to stop in the meantime, longest without has been 5 days, relapses have become frustrating.
- Has tried Suboxone off the street, and works but doesn't want to be on opioids of any kind.

- Benzos: from street sources to help with withdrawal.

15- Consequences of Substance Use:

- Social/occupational/educational: Job loss, loss of trust from parents, 2 DUIs, last in 2010, owes people money from use

- Physical (including evidence of tolerance/withdrawal):

16- Behavioral Health Interventions that have been tried:

- Community meetings, outpatient counseling in 2009.
- 2016: 7-day detox at Tellurian, followed by Hope Haven residential for 36 days.
- Now in intensive outpatient treatment.

17-Medications Tried for Relapse Prevention? (Specify):

18-

Current Medications:	**Medical/Behavioral Health Diagnosis:**
None other than comfort medications for withdrawal: • gabapentin, clonidine, Bentyl, Zofran, and promethazine 7/20/18 update: has started and been maintained on Vivitrol successfully x 5 months!	None 7/20/18: Has been participating in Continuing Care groups.

19-

Patient Strengths/protective factors:	**Risk factors & Adverse Childhood Events:**
No prior psychiatric history Medically healthy Intelligence 7/20/18: Decided to work in landscaping instead of IT as it was more consistent with his current understanding of his life in recovery.	Access to heroin No known trauma

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

20- Describe any cultural factors that may have an impact on this patient's situation (e.g. beliefs about indigenous healing practices, cultural prohibitions of discussing illness, etc.):

21- Labs (as indicated): Include summary of urine testing or last urine drug screen result

- **3.23.18:** LFTs wnl, POC positive for benzodiazepines and opioids.

22-Prescription Monitoring Program Pertinent Findings:

- **3.23.18:** Nothing
-

23-Proposed Diagnoses:

- Opioid use disorder, severe
- Alcohol use disorder, in remission

24-Patient Goals for Treatment:

- **3.23.18:** Wants to be on Vivitrol, can't get enough days without opioid use. However, County won't fund any further residential days.

25- Proposed Treatment Plan:

- **3.23.18:** Try to get opioid free days for Vivitrol to not precipitate withdrawal

26-Follow-Up Plan:

7-20-18: Continues with work, considering finishing bachelors degree, continuing care groups, plans to move out from parents, plans to continue with Vivitrol.
Anticipate barrier to care with making too much money for Medicaid and needing to get private insurance to pay for ongoing treatment.

By initialing here __RB_____ you have acknowledged that Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any ECHO clinician and any patient whose case is being presented in a teleECHO clinic.

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

DSM 5 Criteria for Substance Use Disorder

A use disorder is characterized by maladaptive use resulting in repetitive consequences over the previous 12 months. A minimum of 2-3 criteria is required for a mild substance use disorder diagnosis, while 4-5 is moderate, and 6-7 is severe (American Psychiatric Association 2013)

1. Taking the substance in larger amounts and for longer than intended
2. Wanting to cut down or quit but not being able to do it
3. Spending a lot of time obtaining the substance
4. Craving or a strong desire to use
5. Repeatedly unable to carry out major obligations at work, school, or home due to use
6. Continued use despite persistent or recurring social or interpersonal problems caused or made worse by use
7. Stopping or reducing important social, occupational, or recreational activities due to opioid use
8. Recurrent use in physically hazardous situations
9. Consistent use despite acknowledgment of persistent or recurrent physical or psychological difficulties from using
10. *Tolerance as defined by either a need for markedly increased amounts to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount. (Does not apply for diminished effect when used appropriately under medical supervision)
11. *Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal (Does not apply when used appropriately under medical supervision)

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Drug Testing in Clinical Practice

The Science and Art of Drug Monitoring

David Galbis-Reig, M.D., DFASAM

Medical Director of Addiction Services

Ascension Wisconsin – All Saints

Funding for this project was made possible by grant 1H79T1080247-01 from the Substance Abuse and Mental Health Services Administration. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official polices of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Accreditation Statement:

In support of improving patient care, the University of Wisconsin–Madison Interprofessional Continuing Education Partnership (ICEP) is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Disclosure of Conflicts of Interest:

It is the policy of the University of Wisconsin–Madison ICEP that anyone with a CE planning role for this activity (persons who may influence content) disclose all relevant financial relationships with commercial interests The University of Wisconsin–Madison ICEP defines a commercial interest as any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients The ACCME does not consider providers of clinical service directly to patients to be commercial interests. There is no commercial support for this activity. In order to allow CE staff to identify and resolve any potential conflicts of interest. Disclosure of any planned discussions of unlabeled/unapproved uses of drugs or devices during each presentation is required.

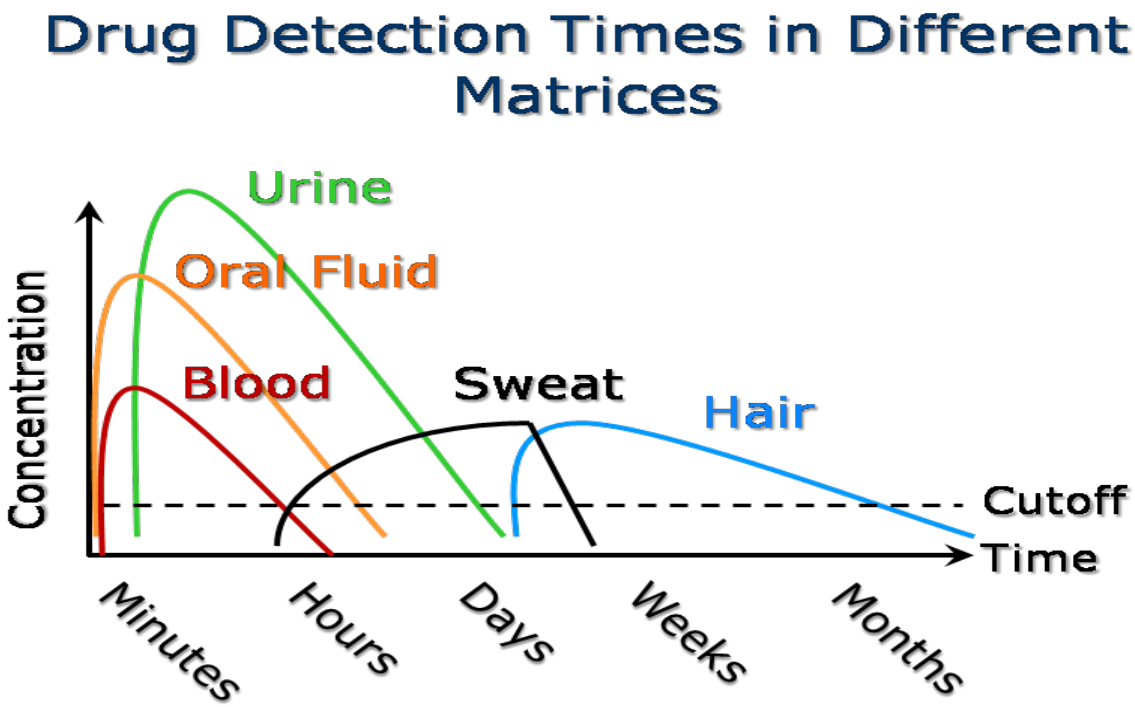
Overview

- Be able to Describe the Different Drug Testing Matrices and the Potential Advantages ad Disadvantages of Each in Clinical Practice.
- Understand the Basics of Drug Testing: What to Test, How to Test, and in What Situations to Perform a Urine Drug Screen.
- Understand How to Interpret a Positive Urine Immunoassay and When to Obtain Confirmatory Tests.

- What to Test? (The Matrix)
  - Any Organic Tissue/ Fluid can be Used as a Matrix for Drug Testing.
  - Common Matrices for Drug Testing:
    - Urine
    - Blood
    - Oral Fluid
    - Sweat
    - Fingernails
    - Hair

Drug Testing Basics

Drug Detection Times in Different Matrices [5]



7 Cone, E. J. (2011). Oral Fluid Drug Testing Workshop: Pain Management. *Society of Forensic Toxicology/The International Association of Forensic Toxicologists (SOFT/TIAFT)*. September 25-30, 2011. San Francisco, CA.

- How to Test? (Urine as a Matrix)
  - Scheduled vs Random Drug Testing
    - Random Drug Testing is Recommended for Clinical Practice in Addiction Medicine and Chronic Pain Management BUT may be Technically Difficult in Most Settings.
    - Random Drug Testing Decreases Risk of Subversion and Increases Risk of Detection of Unwanted Substances.
  - Forensic Drug Testing vs Clinical Drug Testing
    - Forensic Drug Testing has Established Safeguards to Ensure that the Sample Meets Legal Standards
    - Clinical Drug Testing Must Meet the Established Standards of Medicine

- How to Test? (Urine as a Matrix)
  - When is Confirmatory Testing Necessary (e.g. GC-MS or LC-MS/MS)
    - Confirmatory Testing By Way of GC-MS or LC-MS/MS Should Be Performed on ALL Positive IA Results to Rule-Out False Positive Findings in clinical settings were such positive testing will change the treatment plan.
  - What Drug(s)/Metabolite(s) Should Be Tested?
    - Substances Prescribed and Commonly Abused Drugs in the Community Should be Included in Testing
  - Quantitative vs Qualitative Results
    - Quantitation is Not Typically Necessary in Most Clinical Settings but Identification of Specific Drugs is Necessary.

- When to Test?
  - Depends on Clinical Situation
    - Addiction Care
      - Random Drug Testing at Variable Intervals is the Gold Standard
      - Frequency Will Depend on Individual Patient Risk (Length of Sobriety, Environment, etc.)
      - Patients in Addiction Treatment Programs Require More Frequent Monitoring than in Other Clinical Fields
    - Emergency Department/ Prompt Care
      - Evaluation of Overdose/ Altered Mental Status
      - Alcohol Levels More Commonplace

- When to Test?
  - Depends on Clinical Situation
    - Pain Management
      - Frequency Will Depend on Individual Risk Assessment
        - Assess Risk of Abuse and/or Diversion
          - Multiple, Validated Risk Assessment Tools Available
          - Screener and Opioid Assessment for People with Pain Revised (SOAPP-R) available at http://www.painedu.org/load_doc.asp?file=SOAPP-R.pdf to assess risk
        - Low Risk Patients May be Tested Twice Per Year (SOAPP-R<9)
        - Moderate Risk Patients Should be Tested Four Times Per Year (SOAPP-R 10-21)
        - High Risk Patients May Require Frequent Monitoring (as often as weekly in rare cases)
      - Random Drug Testing at Variable Intervals is Best (but may not be feasible in most practices)

- When to Test?
  - Cause-Based Testing
    - Aberrant Drug Use
      - Early Refill Requests
      - Stolen/ Lost Prescriptions
      - Drug Overdose/ Side Effects (Sedation)
    - Impaired/ Intoxicated Appearing Patient
    - Third Party Reports of Aberrant Drug Use
      - Family Members
      - Other Clinicians

- Immunoassay (IA) Testing - Urine
  - Primary Testing Modality Used as an Initial Screen for Substances in Clinical Practice.
  - Biochemical Test that Measures the Presence of a Molecule Through the Use of an Antibody or Immunoglobulin.
    - Point of Care and Laboratory Testing Available.
    - Predetermined Cut-off Determines Sensitivity and Specificity of the Test Results.
      - Higher Cut-Off Values Increase Specificity But Decrease Sensitivity (Higher False Negative Rate).
      - Lower Cut-Off Values Increase Sensitivity But Decrease Specificity (Higher False Positive Rate).

- Immunoassay (IA) Testing - Urine
  - Does Not Distinguish Among Individual Substances – Only Drug Classes.
  - The Molecule Tested Determines the Substances that Can Be Detected Within the Class.
    - Opioid Assays Test for Morphine – Synthetic Opioids Will NOT Be Detected
      - High Sensitivity for Heroin (Primary Metabolite is Morphine), Morphine, and Codeine.
      - Some Sensitivity for Hydrocodone.
      - Will NOT Detect Oxycodone, Oxymorphone, Methadone, Buprenorphine, or Fentanyl.
    - Benzodiazepine Assay Tests for Different Molecules (Lorazepam, Temazepam etc.) Which Changes Detection Probability for Different Substances.
    - Amphetamine Assay Typically Tests for Amphetamine (will not detect Methylphenidate).

- Immunoassay (IA) Testing - Urine
  - As a Screening Modality, Positive (abnormal) Test Results Require Confirmatory Testing. (Higher False Positive Results)
    - No Different than a D-Dimer Used to Screen for DVT/PE in Clinical Practice.
      - D-Dimer Test is Highly Sensitive BUT Not Specific - A Positive Test Is NOT Diagnostic of Thromboembolic Disease
      - Positive (abnormal) Test Results Require Confirmation with Doppler Ultrasound or Pulmonary CT Scan.
    - Laboratory Confirmation Should be Performed Through GC-MS or LC-MS/MS.
  - False Negative Rate is Typically Very Low Within the Window of Detection for a Specific Substance (Typically 1-3 Days for Most Substances).

- Immunoassay (IA) Testing – Urine
  - Advantages of Immunoassay
    - Relatively Inexpensive
    - Rapid Turn-around Time
    - Widely Available
    - Non-Invasive
  - Limitations of Urine Immunoassay
    - Non-Specific Results – Will Not Identify Specific Drugs
      - Very Important to Correlate Results with Patient History
      - Provider Must Understand the Sensitivity of Each Assay for Substance of Interest
    - Susceptible to Sample Adulteration
    - False Positive Rate

- CLINICAL PEARLS REGARDING URINE DRUG TESTING
  - An Abnormal Positive Test Result DOES NOT Diagnose Substance Abuse or Addiction.
  - A Negative Test Result DOES NOT Guarantee that a Patient Does Not Suffer From Substance Abuse or Addiction.
  - Positive Random Urine Drug Screens are Most Indicative of Regular, Not Sporadic Use.[14]
  - In Pain Management and Addiction Medicine, ALL Positive Urine Immunoassay Tests Should be Sent for Confirmatory Testing Via GC-MS or LC-MS/MS.
    - Especially True When Drug Test Results Do NOT match the Patient's History and May Affect Treatment.
    - May Need to Request Additional Confirmation Testing for Drugs that Would Not be Detected in Standard Urine Immunoassay (e.g. fentanyl, buprenorphine, methadone).

14 DuPont, R. L., Griffin, D. W., Siskin, B. R., Shiraki, S. & Katze, E. (1995). Random drug tests at work: The probability of identifying frequent and infrequent users of illicit drugs. *Journal of Addictive Diseases*, 14, 1–17.

- CLINICAL PEARLS REGARDING URINE DRUG TESTING
  - As a General Rule, Negative Urine Immunoassay Tests do NOT Need to be Sent for Confirmatory Testing.
  - Always Ask the Patient What You Can Expect to Find in the Urine Prior to Testing – A Good Patient History Remains the Most Important Aspect of Patient Care.
  - Develop a Protocol Regarding the Process of Notifying Patients of Drug Testing Results and a Policy Regarding Unexpected Abnormalities.
    - What to Do About Unexpected Positive Results.
    - Develop Protocols for Referral to Substance Abuse Services When Necessary.
    - Remain Empathetic but Demonstrate "Tough Love" With Patients Who do Not Comply with Treatment.

14 DuPont, R. L., Griffin, D. W., Siskin, B. R., Shiraki, S. & Katze, E. (1995). Random drug tests at work: The probability of identifying frequent and infrequent users of illicit drugs. *Journal of Addictive Diseases*, 14, 1–17.

DSM-5 Substance Use Disorder ("Addiction")

- Tolerance
- Withdrawal

} **Physical Dependence ≠ Use Disorder**

- Larger amts/longer periods than intended
- Persistent desire/failed attempts to quit/control use
- Much time obtaining/using/recovering
- Important activities sacrificed
- Continued use despite known adverse effects
- Failure to fulfill major obligations
- Recurrent hazardous use
- Craving
- Ongoing use despite interpersonal problems

2–3 = mild
4–5 = moderate
≥ 6 = severe