FORENSIC DRUG AND ALCOHOL TESTING AND MONITORING

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SUBSTANCE ABUSE EVALUATIONS

1. Includes psychosocial, medical, psychological/mental health, and substance abuse history

2. May include results of previous and current substance abuse testing

3. Useful in determining the need for treatment and what type of treatment with clients who are seeking help for substance abuse problems.

4. Less helpful with clients who are referred for a forensic evaluation with or without a custody evaluation, particularly if they do have a history of substance abuse (doubly defensive).

5. May include survey instruments including the Substance Abuse Subtle Screening Inventory (frequently invalid due to defensiveness); Addiction Severity and Mental Health Assessment (ASI-MV) other self-disclosing rating scales are often of little use due to clients taking a defensive posture and producing invalid profiles.

6. The evaluation question is often not only whether or not the person is abusing substances and the extent of that abuse, but what type of treatment would be recommended.

7. In the case of child custody and some other forensic cases, a third question would be how to monitor the individual’s abstinence during custodial time.
1. In Forensic Testing the testing methods favor the donor in that they are designed to maximize specificity for illegal drug use (which drugs) at the expense of sensitivity (amount ingested).

2. In Forensic Testing the need to avoid false positive results is paramount.

3. The federal government has set cut-off levels for urine testing for only certain drugs, and these cut-off levels are usually applied to hair and saliva testing.

4. The federal government cut-off levels are sometimes used as the standard in court cases (See attached chart).

5. Some states have set their own cut-off levels, and some of those cut-off levels are significantly higher than those used by the federal government.

6. Alcohol (EtG levels) follow the guidelines determined by the World Health Organization in association with the Society of Hair Testing.

7. Most laboratories report their results in terms of picograms or nanograms per milligram or per milliliter. (1000 picograms (pg.) = 1 nanogram (ng.).

8. In forensic testing it is not possible to establish the amount of the drug used with medical certainty from testing levels, as individuals absorb specific drugs differently based on biological and genetic differences (including race, gender, body size, and other factors). Within subject testing can be used to indicate that an individual has ingested more or less of a specific drug than they had ingested on previous testing. Forensic testing cannot determine with medical certainty whether an individual is abusing a drug that they are legally prescribed.

9. Individuals who are abusing a prescribed drug are often ingesting or abusing other drugs that they are not prescribed.

The Substance Abuse and Mental Health Services Association (SAMHSA) provides guidelines for what qualifies as a positive drug test. If a test does not give results higher than the guidelines, it does not qualify as a "positive" test. If an immunoassay test gives positive results, a second Gas Chromatography test must also give positive results before a result of "positive" is announced. The following chart shows the guidelines by substance.

Questions to Ask in Performing Forensic Testing
1. Does the test search for the drugs you are questioning? Typically, urine, saliva, and hair testing will include testing for the following drugs:

   a. Cocaine and its metabolites
   b. Phencyclidine (PCP)
   c. Marijuana and its metabolites
   d. Amphetamines
      1. Amphetamine
      2. Methamphetamine
      3. MDMA (Ecstasy)
      4. MDA
      5. MDEA
   e. Opiates
      1. Codeine
      2. Morphine
      3. 6-MAM (heroin)
      4. Oxycodone (some tests) (Percocet, OxyContin, Tylox, etc.)
      5. Hydrocodone (some tests) (Vicodin)
      6. Hydromorphone (some tests) (Dilaudid)
      7. Oxymorphone (some tests) (Numorphan, Opana)
   f. Benzodiazepines (typically urine and saliva testing only)
   g. Alcohol (typically urine and saliva testing only)
   h. Anabolic steroids (typically urine and hair testing only)

2. Is the lab certifying that the chain of custody is intact? (Can you prove that no one could have tampered with the sample?)

3. Is the lab FDA approved and accredited by the College of Forensic Pathologist Forensic Drug Testing Accreditation Program for the test that they are performing?

4. Does the laboratory offer in-house lawyers and forensic toxicologists to answer questions on forensic testing and provide expert witness testimony?

5. Is a positive initial test using imunoassays (often performed on urine or saliva samples in the office) confirmed by a more specific method in the laboratory, such as gas chromatography and mass spectrometry (GC/MS/MS)?

6. How precisely can the time of use be determined?
7. How long are positive and negative samples stored for retrieval after testing?

**URINE, HAIR AND SALIVA TESTING COMPARISON**

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<tr>
<th></th>
<th>HAIR</th>
<th>URINE</th>
<th>SALIVA</th>
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<tbody>
<tr>
<td>Comfort of client</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>Immediate screening capability</td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>Benzodiazepine detection</td>
<td>(X)</td>
<td>X</td>
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<tr>
<td>Alcohol detection</td>
<td>X</td>
<td>(X)</td>
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<tr>
<td>Historical testing</td>
<td>X</td>
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<tr>
<td>Detection of time of ingestion</td>
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<tr>
<td>Retest capability</td>
<td>X</td>
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<tr>
<td>Ability to establish non-use with 3 tests per year</td>
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<td>Resistance to evasion</td>
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Using Psychemedics Forensic Hair Testing

1. Provides certification of an intact chain of custody to the lab

2. Psychemedics has provided more hair tests than all other laboratories combined with millions of tests since 1987.

3. Liquefies the hair sample before testing to release 100% of the drug for detection which is particularly important in the detection of certain opiates.

4. The first lab to have FDA approval for both head and body hair testing (uses only FDA approved tests)

5. Segmented testing can be done to detect which month(s) the drugs were used.
6. Psychemedics hair tests have been upheld in more state and federal courts than any other testing lab.

7. Psychemedics has in-house lawyers and forensic toxicologists to provide expert witness testimony.

8. Psychemedics was the first drug testing laboratory to be accredited for forensic testing, and the first lab accredited for the forensic testing of hair, by the College of American Pathologists (CAP) Forensic Drug Testing Accreditation Program.

9. Stores negative samples for one month and positive samples for five years.

10. Tests for synthetic opiates, including Oxycodone (Percocet, OxyContin, Tylox, etc.), Hydrocodone (Vicodin), Hydromorphone (Dilaudid), and Oxymorphone (Opana) upon request.

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### Monitoring of Clients with Substance Abuse History

1. Weekly urine screens

2. Hair testing can be performed every 90 to 120 days in order to establish abstinence (The test will identify those consuming as few as 8-16 alcoholic drinks (on average) per week, resulting in a level reported in the “Mild to Moderate Consumption” category. To be considered in the category of “excessive alcohol consumption” and fall into the category of 30 pg/mg or greater, an average of at least 4-6 alcoholic drinks per day would have to be consumed over an average of 3 months.)

3. Breath testing for alcohol can be ordered randomly or at specific hours during custodial time and monitored remotely
   a. Soberlink
   b. Home interlock
   c. Breathalyzer on cell phone
   d. Transdermal monitoring for alcohol use
(i.e. SCRAM transdermal ankle monitor)

e. Near Infrared Tissue Spectroscopy

(using tissue properties to detect alcohol levels and biometric identity)