

National Drug Court Institute: Advantages and Disadvantages of Drug-Testing Specimens

Specimen	Detection Period	Advantages	Disadvantages
Urine	Provides a profile of both current and recent past substance usage. Detection time generally calculated in days for most drugs (excluding alcohol).	<p>Provides detection for both recent and past usage.</p> <p>Sample is generally available in large quantities for testing.</p> <p>Drug and metabolites are highly concentrated; therefore easily detectable using both laboratory-based and on-site testing devices.</p> <p>Numerous inexpensive testing options including on-site testing.</p> <p>Uniform forensic criteria supported by years of court/legal case law and adjudication.</p> <p>Established cutoffs.</p>	<p>Invasive “witnessed” collection procedures required – necessitates same gender observed collections.</p> <p>Specimen is susceptible to tampering via dilution or adulteration.</p> <p>Drug concentration influenced by fluid intake; savvy clients may consume copious fluids to alter testing results.</p> <p>Sample collection process can be time consuming.</p> <p>Urine drug levels provide no interpretive data (no dose/concentration relationship).</p>
Sweat (Patch)	Measure current (ongoing) drug use following patch application; past exposure not detected. Patch is FDA approved to be worn for up to 7 days.	<p>Ability to monitor 24/7 for extended periods, which provides a significant adjunct to the therapeutic process.</p> <p>Relatively client tamper-proof.</p> <p>Use has participant acceptability due to noninvasive approach.</p> <p>Increased deterrent to drug use.</p> <p>Cross-gender collections.</p>	<p>Cannot detect prior drug exposure.</p> <p>Limited collection devices and testing laboratories.</p> <p>Potential risk of contamination during patch use.</p> <p>Can be removed.</p> <p>Limited number of drugs detected.</p> <p>No on-site testing.</p>
Oral Fluid (Saliva)	Provides recent usage detection. Many drugs cannot be detected beyond 24 hours after use.	<p>Noninvasive, cross-gender collections.</p> <p>Specimen tampering reduced.</p> <p>Data may relate to behavior/performance.</p> <p>On-site testing available (but not recommended).</p>	<p>Short detection window.</p> <p>Specimen collection can be time consuming.</p> <p>Limited collection devices and testing facilities.</p> <p>Cutoffs not well established.</p> <p>Limited number of drugs detected.</p> <p>On-site testing devices pose forensic concerns regarding accuracy and reliability.</p>

Specimen	Detection Period	Advantages	Disadvantages
Hair	Provides past drug usage only; detection period up to 90 days. Does not provide recent drug use information (hair required to grow out of scalp prior to sample acquisition).	<p>Extended detection period.</p> <p>Noninvasive, cross gender sample collection.</p> <p>Reduced specimen tampering.</p> <p>No biohazard issues.</p> <p>No poppy seed interference.</p>	<p>Increased cost per sample tested.</p> <p>Inability to detect recent drug usage.</p> <p>Limited number of testing facilities.</p> <p>No on-site testing.</p> <p>Continuing concerns regarding ethnic, hair-color bias.</p> <p>Use of body hair forensically controversial.</p> <p>Testing may not detect single use drug use event.</p> <p>Date of drug use cannot be assessed.</p>
Blood	Detects very recent usage of abused substances; detection time often measured in hours following use.	<p>Results both qualitative and quantitative may provide behavior/performance data in select circumstances such as driving while impaired (DWI).</p> <p>Specimen tampering eliminated.</p>	<p>Invasive sample collection – venipuncture required by medical staff.</p> <p>No on-site testing.</p> <p>Traditional urine testing methods not applicable to blood analysis.</p> <p>Limited sample volume can be obtained.</p> <p>Detection of abused drugs in blood difficult for many laboratories due to low level of drugs.</p> <p>High potential for false negative results.</p> <p>Specimen not recommended for drug abstinence monitoring.</p>
Eye Scanning / Pupilometer Instruments	Designed to determine impairment, recent use monitoring client only. Detection time measured in hours.	<p>No specimen collection.</p> <p>On-site devices, immediate results.</p> <p>Ease of operation.</p>	<p>Monitors impairment rather than abstinence.</p> <p>Short detection window.</p> <p>May require additional specimen collections to confirm positives.</p> <p>Not peer reviewed.</p> <p>Devices may detect client fatigue as “positive.”</p>