

A Brief Note on Drug Test

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DESCRIPTION

A drug test is a scientific examination of a biological specimen, such as urine, hair, blood, breath, perspiration, or saliva to assess the presence or absence of specified parent substances or their metabolites. Common drug testing applications include the detection of performance-enhancing steroids in sports, employers and probation officers screening for illegal drugs, and police officers testing for the presence and concentration of alcohol (ethanol) in the blood.

A breathalyzer is usually utilized for BAC (Blood Alcohol Content) tests, but urinalysis is used for the great majority of drug testing in sports and the workplace. There are a variety of additional methods available, each with differing degrees of accuracy, sensitivity, and detection intervals. A drug test is a test that provides a quantitative chemical analysis of an illegal drug and is intended to encourage safe drug use. The inexpensive cost of urine analysis is the main reason for its adoption. One of the most prevalent testing methods is urine drug testing. The most common urinalysis is the enzyme-multiplied immune test. There have been complaints regarding the test's relatively high percentage of false positives. Urine drug tests look for the presence of a parent drug or its metabolites in the urine. The amount of drug or its metabolites in a patient's system has nothing to do with when the medication was taken or how much the patient took.

Urine drug testing is an immunoassay that works on the competitive binding concept. Drugs that may be present in the urine sample compete for binding sites on their specific antibody with their corresponding drug conjugates. A urine sample migrates upward due to capillary action during testing. A medicine will not saturate the binding sites of its specific antibody if it is present in a urine sample at a concentration below the cut-off. A visible colored line appears in the test line

area of the drug strip when the antibody reacts with the drug-protein conjugate.

A prevalent misunderstanding is that a drug test for a specific drug class, such as opioids, will identify all drugs in that class. However, oxycodone, oxymorphone, meperidine, and fentanyl are not reliably detected by most opioid tests. Similarly, lorazepam is not reliably detected by most benzodiazepine drug tests. Urine drug screens, on the other hand, that tests for a single drug rather than an entire class, are frequently available.

When an employer or a physician requests a drug test from an employee or a patient, the employee or patient is usually told to go to a collection site or to their house. The urine sample is subjected to a strict 'chain of custody' to guarantee that it has not been tampered with or tainted by lab or employee error.

The patient's or employee's urine is collected in a secure cup at a remote location, sealed with tamper-resistant tape, and delivered to a drug testing center. At the testing site, the first procedure is to divide the urine into two aliquots. An analyzer that performs immunoassay as the initial screen is used to screen one aliquot for drugs. Additional parameters are examined to assure specimen integrity and to detect suspected adulterants. Some tests look for things like urine creatinine, pH, and specific gravity in normal urine. Others are designed to catch compounds like oxidants (including bleach), nitrites, and gluteraldehyde that are introduced to the urine to change the test result.

Both sedative analgesics oxycodone and diamorphine, for example, might be examined. If a specific test is not requested, a broader test will detect the majority of drugs in a class, but the employer or physician will not have access to the drug's name. On-site quick drug testing is a more cost-effective way of detecting substance abuse among employees, as well as monitoring patient progress in recovery programmes.

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