SDRL Laboratory

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Confirmation Testing Q&A (part 1)

What is a confirmation test?
A confirmation test is a secondary test method used by a laboratory to verify the results of an initial drug screen. Whereas a screen tests at the class level, a confirmation test identifies the specific analytes (drugs) present in a patient's system.

How is a confirmation test different than a screen?
A test by a Chromatographic method (TLC, GC/MS or LC/MS) is generally considered to be a Confirmation. Confirmation tests use completely different testing methodologies and different technologies than those used for a drug screen (immunoassay or radioimmunoassay RIA). Confirmations are more labor-intensive than a screen. A screen typically will utilize higher cutoff levels as it is looking for more broad information, whereas a confirmation test will use lower cutoff levels as it is looking for more specific information to identify and quantify the target analyte.

Specifically, what does a confirmation test reveal?
Confirmations: 1) are a verification of the initial immunoassay test results; 2) determine which specific analytes are responsible for causing positive results; 3) reveal how much of each analyte is present in the patient's urine/saliva sample; and 4) identify if the screen test positive was due to illicit drug use or a medication interaction.

Why have a confirmation test performed? When is it appropriate?
In most cases, a confirmation test is performed when the screening results are not consistent with the patient's medications or a patient contests the results of their drug screen. A confirmation test can also reveal whether a positive screen is the result of a patient taking a medication that they are being prescribed or from an illicit substance (or both). For example, a sample that confirms positive for Alprazolam (Xanax) rejects a patient's claim that their sample screened positive for the Benzodiazepines class due to a prescription for Valium (Diazepam).

What are the different types of confirmation methodologies?
The most common types of confirmation are Thin-Layer Chromatography (TLC), Gas Chromatography Mass Spectrometry (GC/MS) and Liquid Chromatography Mass Spectrometry (LC/MS/MS).

How are they different?
Besides each type of confirmation test using its own specific technology, each has its own "pros" and "cons" depending upon a program's needs and the purpose for the drug-testing (see below table). For example, a TLC confirmation can only be used on a urine sample and thus is not an option for a program that only collects saliva from their patients; GC/MS and LC/MS/MS can be performed on both urine and saliva samples.

METHODOLOGY:	Thin Layer Chromatography (TLC)	Gas Chromatography / Mass Spectrometry (GC/MS) or Liquid Chromatography / Mass Spectrometry (LC/MS/MS)
Specimen Type	Urine only	Urine or Saliva
Sensitivty	Good Sensitivity	Very Good Sensitivity
Quantitation	Results are Qualitative	Results are Quantitative
Legal Defensibility	Excellent option for drug treatment and other non-legal situations.	Considered "state of the art" and required where litigation is an issue. Done properly with a chain of custody and forensic procedure it is extremely defensible in court.
Cost	Economical	Higher cost due to expensive equipment and reagents. More labor-intensive.

??? Did You Know ???

The 2011 National Survey of Drug Use and Health, recently published by SAHMSA, shows the vast disparity between the number of people needing treatment for a substance abuse problem and the number who actually receive it. According to the report, 21.6 million Americans needed treatment for an illicit drug or alcohol problem in 2011 and only 2.3 million (10.8%) received it in a specialized treatment setting. Although the number needing treatment declined between 2010 (23.2 million) and 2011, the percent of those in need that received specialty treatment in 2011 was statistically unchanged from 2010 (11.2 percent). **(Source: www.sahmsa.gov)**

Question of the Month

Question: *Can any over-the-counter (OTC) cold medications cross-react with any of the drugs on the basic panel?*

Answer: OTC medications, when taken as recommended per the instructions included with the medication, are not expected to cross-react with any drug classes. However, when a patient takes more than the recommended amount, OTC medications can cross-react and cause a positive result. At high levels in the system, Ephedra-based drugs (diet pills, cold and sinus medications, etc.) can cross react with the Amphetamines class screen. Similarly, medications containing Dextromethorphan can cross-react with the Amphetamines and/or the Opiates class. When OTC substances are used following the instructions of the medication, they should have no interaction. If a patient is reporting utilizing these types of medications, and there is a positive result in one of the above classes, a confirmation test by either TLC or GC/MS is suggested.