

STERLING NEWS & NOTES

A Report from Sterling Reference Laboratories



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Technical Information from STERLING Reference Laboratories

INTERPRETING A DRUG TEST RESULT

Many of the calls received by our technical support staff have a common theme. The caller is often asking for assistance with interpreting a drug result in an attempt to quantify an individual's recent drug use or patterns of use. Randomly collected urine specimens can not provide the detailed information requested. This newsletter will address some of the most common questions.

Can you please help me interpret some results?

The first question a scientist might ask a caller seeking interpretive guidance is "Are you referring to a screening result or a confirmed result?" This is an important distinction, since confirmed results are more specific than screening results. For example, an opiate positive screening result indicates opiates may have been used, but can not specify which opiate is responsible for the positive result. Confirmation testing is required to identify the specific opiate(s), if any, that caused the initial positive reading.

What is the amount (level) for that positive screening test?

First, screening tests (typically immunoassay tests) are only intended to give positive or negative results. They are optimized to have maximum reliability at the cutoff point to enhance their ability to differentiate between specimens that contain the target drug and those that do not. They are not and never were intended to be used to produce quantitative results. Second, a screening test may be reacting to multiple drug metabolites that all react differently with the immunoassay, causing wide variation in screening levels. Third, any attempt at quantifying a positive result will be affected by such factors as the time elapsed since the last use, the individual's metabolic patterns, and the individual's hydration status at the time of collection. Finally, in a small percentage of cases, the result could be a false positive due to factors other than illicit drug use.

How much drug was my client using?

This is a common question, whether it relates to the amount used, the time of last use, or if the results are appropriate for a given prescription dosage. Unfortunately those questions are mostly unanswerable. Positive results in randomly collected urine specimens

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can only document that some drug use has been detected which occurred sometime within the window of detection for that drug class. There are too many variables involved in drug metabolism, even with accurate quantitative data, to get much more specific than that.

What about my marijuana metabolite screening quantities?

The only screening test for which we offer any quantization is the marijuana metabolite (THC) screen. It is important to understand when attempting to interpret the THC screening results that they are intended to be used purely as a guideline to document that some drug use may have occurred. The immunoassay does not have sufficient linearity to provide anything more than a rough estimate up to about 200 ng/mL. They can provide some general information, but attempting to track a donor's continued use or abstinence is very difficult. For tracking abstinence or relapse, results from specimens collected 5 to 10 days apart that have been confirmed by GCMS are much more appropriate. Even then, the metabolism of THC is extremely variable making a definitive determination of abstinence or reuse difficult in many cases.

My client's GC/MS level was XXXX. Was s/he under the influence at the time of collection?

It is impossible to make that determination from a randomly collected urine specimen. In general the best interpretation that can be made from randomly collected urine specimens is the higher a result is, the heavier and/or more recent the use has been. Most drugs are cleared from the body within 2 to four days so any positive results (other than THC) on specimens that have been collected more than 4 days apart would represent new or continued use regardless of the amount detected.

What else should I be concerned about?

Do not attempt to over read positive drug test results. Avoid the temptation to differentiate between normal use and over use of a prescribed medication based on urine results. STERLING's scientists are always available -

As always, if you have any questions on interpretation, a consulting scientist is available at (800) 442-0438, (253) 552-1551, or via e-mail at certifying@regtox.com.