

Interpretation of Urine Analysis for Cocaine Metabolites

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Background

Urine drug screening in the workplace (particularly pre-placement screening) has been associated with a decline in absenteeism, workplace theft, and on the job accidents. Administratively, positive results in "for-cause" and post-accident testing have been taken as presumptive evidence of impairment in most jurisdictions.

The American College of Medical Toxicology agrees with the ideal of a chemically unimpaired workforce, but wishes to emphasize that there is no scientifically or medically valid method to equate the mere presence (or quantitation) of cocaine or one of its metabolites in a particular person's urine with clinical impairment due to that drug. The clinical circumstances and condition of the individual must also be evaluated as part of the medical interpretation of the urine drug screen.

The Department of Health and Human Services standard for a positive urine test for use of cocaine is: 1) a positive screening test for cocaine metabolites at or above 150 ng/ml with a confirmation of the presence of benzoylecgonine at or above 100 ng/ml using gas chromatography/mass spectroscopy. A positive test by these criteria should be interpreted as establishing the introduction of cocaine into the body by any route at some time prior to the collection of the urine specimen. The most probable time frame is within five days. Thus, metabolites of cocaine may be present for time periods beyond that for which its use may be associated with impairment. It is also possible that they may also be present after the exposure to cocaine at doses that are insufficient to cause significant impairment.

Conclusions

Equating a positive urine test for cocaine metabolites to the presence of impairment at a particular time prior to the urine collection is without scientific merit.

Nothing herein should be construed to condone the use of cocaine nor to suggest that cocaine cannot induce impairment.

References

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