

BOOK REVIEW

Barry K. Logan,¹ Ph.D., D-ABFT

Review of: *Handbook of Workplace Drug Testing, 2nd Edition*

REFERENCE: Ropero-Miller JD, Goldberger BA, editors. Handbook of workplace drug testing. 2nd ed. Washington, DC: AACC Press, 2009, 485 pp.

Workplace urine drug testing in the United States is a multimillion-dollar industry, which has grown substantially in complexity, regulation, and size since the publication of the first edition of this book in 1995. This new edition has been largely rewritten, with completely new chapters, and is very much more a true “handbook” on regulated workplace drug testing than was the prior edition, and covers analytical, interpretive, pharmacological, and regulatory aspects.

This revision is an accessible, practical, reference text for anyone needing an overview of this complex regulated aspect of forensic toxicology. It will also serve as a valuable starting point for researching technical or regulatory questions involving regulated testing. It also recognizes nonregulated aspects of workplace drug testing which are nonetheless important areas of research and development. Some chapters (e.g., screening, the analyte specific chapters, and QA) will be valuable resources for a training program for new technical staff working in any forensic drug-testing laboratory.

The book begins with a chapter on Screening: immunoassay, which it covers in depth, with useful resource information on cross-reactivity and principle of the test. This is followed by a brief overview of newer conformation techniques, including high-resolution mass spectrometry, which will undoubtedly be commonplace in forensic laboratories in a few years. These chapters are followed by sections on quality assurance, alternative matrices (oral fluid,

sweat, and hair), chapters on each of the federally regulated drug classes, and interpretation and regulation of urine workplace drug testing.

The scope of some of the drug class specific chapters is inconsistent, with passive exposure and related interpretive issues being discussed in some but not others, and different weight being given to analytical versus interpretive content. Some chapters such as the one on opiates give comprehensive tables on cross-reactivity of the major manufacturers’ antibodies with various opiates, while others do not discuss the screening process at all (cannabinoids). The amphetamines chapter has a helpful discussion of amphetamine precursors and prodrugs, with comprehensive structures provided. The cannabinoids chapter provides a detailed discussion of the kinetics of cannabinoid excretion which will aid with interpretive questions.

This edition also includes a new chapter on stability of drugs in biological fluids, which covers benzodiazepines and barbiturates in addition to the core-regulated drug classes. This is an important consideration for test/retest comparison and screen/confirmation discrepancies, and is a useful addition.

The chapters are well written, indexed, and referenced, and the book is nicely produced. This new edition will work well as a handbook for quick reference in any forensic urine drug-testing laboratory and would be a valuable orientation for scientists new to the field. The editors have made significant improvements over the first edition, added many additional valuable topics, have updated references to primary source material, and produced a valuable and practical resource for the forensic toxicology community as a whole.

¹Toxicological Services, NMS Labs, 3701 Welsh Rd, Willow Grove, PA 19090.