

BOOK REVIEW

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A Review of Introduction to Forensic Toxicology

REFERENCE: Cravey, R. H. and Baselt, R. C., *Introduction to Forensic Toxicology*, Biomedical Publications, California, 1981, 299 pp., no price listed.

This book is intended for use by both teachers and practicing professionals in forensic toxicology. It is divided into three sections, and the first section, "Principles for Forensic Toxicology," includes information on the pharmacological and analytical principles necessary for the forensic toxicologist to fulfill his professional obligations. Chapters on the history of forensic toxicology and the pathology of poisoning are also included. The second section deals with the practice of forensic toxicology and describes the type of work involved in a routine forensic toxicology laboratory. The final section, "Applications of Forensic Toxicology," includes chapters on data reporting and handling, interpretation of toxicological data, and appearing as an expert witness.

It is written by experienced and respected forensic toxicologists; their contributions are logically presented although, as is often the case with texts written by several people, there is some repetition. For example, the chapters on "Analytical Techniques" and "The General Unknown" in the second section overlap and it may have been better to present an expanded version of this material in one chapter written by the two contributors.

Generally, the book fulfills its primary intent of serving as an introduction to forensic toxicology which should be useful for both teaching purposes and as an adjunct to training of laboratory personnel. In particular, the chapters dealing with the principles of toxicant action and disposition serve as a good introduction to these areas for those trained in chemistry. The material is not exhaustive but the authors indicate that an interested reader should proceed to more detailed texts.

Unfortunately, the same cannot be said for the chapter on analytical principles, which is written in a confusing and disorganized manner. The authors have divided the chapter into two major sections; the first deals with the extraction of drugs and metabolites from biological matrices and the second with the analytical techniques used to identify and quantitate these agents. Both sections suffer from including too many details of laboratory procedures for a chapter on analytical principles and contain major omissions. For example, the extraction section omits any discussion of protein precipitation techniques and the use of Subtilisin Carlsberg to improve recovery of certain drugs from tissues. The major omission in the section on analytical techniques is any discussion of the extensive work by Moffat and co-workers on the discriminating power of the commonly used chromatographic procedures.

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The chapter also fails to include a comprehensive discussion of the more modern techniques, such as high performance liquid chromatography and gas chromatography/mass spectrometry. The HPLC discussion fails, for example, to mention the advantages and disadvantages of adsorption and bonded-phase chromatography; in fact, the latter, most widely used technique (reverse phase liquid chromatography) is not even discussed. It is hard to imagine that this chapter would be of any value to a graduate student in pharmacology or toxicology interested in obtaining a basic understanding of the techniques used in analytical toxicology.

Apart from this major disappointment, which may very well serve to diminish the usefulness of the book for teaching purposes, the remainder of the text includes most of the information required to serve as an introduction to forensic toxicology. The editors state that this is the first of several editions and it is planned that each one be an improvement on the preceding edition. The second edition should include a fresh approach to analytical principles and also a discussion of the pharmacology and analytical toxicology of agents other than drugs, in particular the heavy metals, which were not included in this text.