

## **Book Review of Textbook of Forensic Medicine and Toxicology: Principles and Practice**

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*Krishna Vij, Textbook of Forensic Medicine and Toxicology: Principles and Practice, Third Edition 2005, Elsevier: A division of Reed Elsevier India Pvt Ltd, New Delhi. ISBN: 81-8147-568-2.*

It is required that an expert in the discipline of Forensic Medicine should have a fair knowledge of all the medical and ancillary sciences. Otherwise, many aspects of criminal investigations may not be interpreted in a forensic standpoint and justice may stay deranged. Keeping this in mind, the third edition of this text book has been revised to include recent advances in the areas of forensic medicine and toxicology. However, the book spreads into almost every branch of medicine and is not confined to criminal matters alone. It covers the responsibilities of doctors towards the state, patients and toward each other, giving a logical and all-embracing work which is oriented towards the pragmatic problems encountered during medico-legal work.

The “Forensic Medicine” section of the book also termed as “Medical jurisprudence” by many authors, is a set of the diligent work contributed by many authors in a number of related areas. These related areas include Forensic Odontology, Forensic Osteology, Forensic Biology, Forensic Ballistics, Forensic Psychiatry, Forensic Serology and of course Forensic Pathology. These areas are accompanied by the massive advances in the past decades in technology and facts.

Part I of the section begins with an introductory work elucidating the basic concepts and terms related to the subject with a brief history of the subject. It includes an explanation of the Indian legal system, autopsy in a medico-legal standpoint, exhumation and artifacts. Identification in the living and dead, primary and secondary characteristics, comparative techniques, age estimation and gender determination in living and from the skeletal remains, dactylography etc. are some of the topics

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discussed. Blood group determination and recently gained importance, DNA profiling, have also been discussed effectively.

Part II deals with the medico legal aspects of death and the various possible causes of death. Each chapter gives a full understanding of the cause, its classification, the medico-legal aspects, the identification techniques for determination of causes of death along with examples and appropriate photographs of real life postmortem. The given causes of death are classified as due to asphyxia, thermal injuries resulting in death, starvation and neglect, by electrocution and due to anesthesia. It also comprises a discussion on infanticide and foeticide. The definition of custody, the methods of torture and circumstances of death and the role of an autopsy surgeon is also given.

Part III describes the medico-legal aspects of injuries and its classification according to the weapon that had produced them. The explanation of wound, trauma, injury in the medico-legal context, the mechanism of production of mechanical injuries, and differentiation between ante mortem and postmortem wounds is also described. These include injuries by blunt force, sharp force, firearms and explosives. It also focuses on how a medical examiner with substantial evidence determines whether the act is suicidal, homicidal or an accident. A chapter each on regional injuries and transportation injuries is also included. The importance of trace evidence and important sections of the Indian penal code relating to offences against the human body, simple and grievous injuries has also been mentioned.

Part IV explains the legal aspects of medical practice such as ethics in medical practice and medical negligence. This includes important issues such as AIDS and abortion. The types of consent, refusal of treatment and the doctrine of informed consent and its components are some of the highlighting parts.

The “forensic medicine” portion aims to provide an up-to-date, expressive coverage of main topics in forensic science that serves as an ideal book for undergraduate student in the medical field. The section has an admirable presentation which makes a reader from any background have an opening to forensic medicine. The approach and layout is kept extremely simple for those who are new to forensic science/medicine need not feel misplaced in what can appear originally as a jargon.

The “toxicology” section of the book talks about the most classic topics in the field of toxicology. A discussion of the

characteristics of the poisons, clinical features in case of poisoning in both; the living and dead are covered effectively.

Beginning with an introduction to the concept of toxicology and a brief note on statutes on drugs and poisons in India, the section gives a laymen understanding of the various factors modifying the action of poisons. The introductory chapter also makes an attempt in giving a profession from a non medical background, a clearer idea of the typical toxicology related terms such as lethal dose and some of the sophisticated analytical techniques used in the collection of autopsy samples such as bodily fluids and tissues for further examination in the laboratory including interpretation of results.

In cases of poisoning, where the patient is living, it is vital to treat him or her immediately since the person's life maybe at stake. The second chapter focuses particularly on duties of a medical practitioner in such situations providing data of a medical practitioner in such situations providing data on the specific antidotes required of specific poisons including some principals of poisoning management. A classification of poisons based on their mode of action is also included.

Even though it is evident that the first two chapters make an attempt to cushion some of the hurdles for personnel from a non medical background, it does not intend to be a complete base for forensic toxicology. It merely provides an overview of the physiological affects of some of the commonly encountered poisons and drugs, describing their medico-legal aspects and some of the analytical tools and techniques involved in the investigation.

The rest of the section contains chapters that cover overviews on poisons that are classified according to their physiological effects; excepting a few chapters. Each chapter is systematically arranged into four sections giving a very brief account of the physical and chemical properties of poisons, clinical features, postmortem appearances and the medico-legal aspects. Additional characteristic information specific to a poison is also given.

The 'toxicology' section serves as an excellent guide for students since there is no hassle in the arrangement of the content and the introduction is clear-cut and precise. However, to a toxicologist's surprise, the book deals minimally with the analytical methodology for the mentioned substances. In fact only an introduction is given and most of the chapters completely ignore the instrumentation required for the analysis and also lacks the data dealing with collection and preservation of evidences. The

book mainly focuses on the postmortem appearances and clinical features which are the only parts that are directly linked with actual investigative toxicology. Therefore, it is cautioned that in spite of the excellent presentation and very valuable information, the section does not portray as a substitute for a laboratory manual.

However, this section discusses very briefly, one of the most important topics of recent interest which is inhalation toxicology as mentioned under the heading "Volatile substance abuse". Again, it can only give the reader an introduction on the matter since it is concerned mainly with medico-legal considerations. As mentioned earlier, it serves as a good academic resource. Since, the toxicology section is mostly seen from a medical examiner point of view and not as a forensic toxicologist or chemist; it lacks the necessary investigative procedures to justify it under forensic science.

The third edition of this book has been updated in most of the sections and two chapters, namely, "Deaths associated with Surgery and Anesthesia" and "Custody related Torture and/or Death" have been added. An attempt has been made to cautiously review the complete second edition and shape up appropriate additions/deletions/modifications. However, the content is principally structured to explore and emphasize the legal implications of various problems/issues and tackling the same. A few discriminatory 'cases' have been added to virtually illustrate the procedures and principles.

All these additions craft the book to serve as an exceptional resource for students, medical as well as legal practitioners, investigating agencies and above all judiciary. Educationalists would come across the illustrative 'case discussion' quite worthy of note and constructive.