

## BOOK REVIEW

Graham R. Jones,<sup>1,2</sup> Ph.D.

### Review of: *Quality Assurance in the Pathology Laboratory*

**REFERENCE:** Bogusz MJ, editor. *Quality assurance in the pathology laboratory: forensic, technical and ethical aspects*. Boca Raton, FL: CRC Press, 2011, 374 pp.

This is an introductory text to the field of quality assurance in clinical and forensic laboratories. As Dr. Bogusz states in his preface “the concept of the book is to provide a general insight into the quality assurance aspects of pathology and laboratory medicine” (p. viii). As such, the description “pathology laboratory” is slightly misleading as the book covers a wide range of settings, including traditional clinical and forensic testing, but also point-of-care testing and the autopsy suite.

The book is divided into three parts, the first being *Quality Assurance of Chemometric Methods and Pathology*. Chapter 1, *The Preanalytical Phase in Quality Assurance*, includes topics such as how the choice of tissue biopsy sites can affect diagnostic error rates. The second chapter deals with *Quality Assurance of Point-of-Care and On-Site Drug Testing*, the third chapter more traditional *Quality Assurance of Identification with Chromatographic-Mass Spectrometric Methods*, and the fourth chapter the *Quality Assurance of Quantification Using Chromatographic Methods with Linear Relation between Dose and Detector Response*. The second section of the book, *Quality Assurance Aspects of Newly Emerging Methods in Pathology and Laboratory Medicine* is devoted primarily to medical topics. Chapter 5 is titled *Pharmacogenomics, Personalized Medicine and Personalized Justice Influencing the Quality and Practice of Forensic Science*. The sixth chapter, *Quality Aspects in Autopsy and Virtopsy*, as the title suggests, includes a discussion of photogrammetry-supported 3D optical surface scanning, computed tomography (CT) magnetic resonance tomography (MRT), and data fusion (the merging of data from surface scans and radiological data—CT and MRT). The third and largest section covers *Accreditation Standards and Education*. Chapter 7, titled *Role of Accreditation Procedures in Maintaining Quality*, offers a comprehensive overview of relevant ISO standards (e.g., ISO

17025 and ISO 15189) and the role of the many nonprofit bodies that inspect and accredit clinical and forensic laboratories, both nationally and internationally. Some 15 pages are devoted to providing an overview of the various requirements of ISO 17025 and 15189, which may prove useful to those not already familiar with the standards. An overview of the accreditation standards in Europe, the United States, and several other countries is covered. Chapter 8, *Role of Governmental and Professional Organizations in setting quality Standards in Pathology and Laboratory Medicine and Related Areas*, describes the various standards set by the U.S. Federal Government and the European Union, covering mainly clinical laboratory and medical diagnostic testing, but also workplace drug testing. Unfortunately, the list of SAMHSA cutoff changes was not able to be updated to reflect the changes that came into effect in October 2010. An overview was also provided of the forensic laboratory guidelines of the Society of Forensic Toxicologists and American Academy of Forensic Sciences, as well as the Society for Hair Testing and the German Society of Toxicological and Forensic Chemistry. Chapter 9, *Education and Training in the Changing Environment of Pathology and Forensic Medicine*, broadly covers the education and training options available for those considering a career in these fields, primarily in the United States and Europe. The final chapter, *Quality Assurance Aspects of Interpretation of Results in Clinical and Forensic Toxicology*, deals mainly with the various professional certification options for clinical and forensic practitioners, but only just over two pages that discusses interpretation in clinical and forensic toxicology.

Overall, this book gives a fairly high level overview of quality assurance in the “pathology laboratory.” This is not unexpected given the breadth of the subjects covered. However, it is a well edited and very readable book that will provide a good introduction to the various aspects of quality assurance in clinical and forensic laboratory practice for practitioners at most levels.

<sup>1</sup>Chief Toxicologist, Office of the Chief Medical Examiner, 7007-116 Street N.W., Edmonton, Alberta, Canada T6H 5R8.

<sup>2</sup>Department of Laboratory Medicine and Pathology, University of Alberta, Edmonton, Alberta, Canada.