

**REVIEW OF QUALITY CONTROL IN NUCLEAR MEDICINE**

Trevor D. Craddock, Ellinor Busemann-Sokole, Hans D. Roedler, (eds), MMV Medizin Verlag Munchen, 1986, 107 pp, \$25.00 (US dollars, plus \$4.00 air mail).

This book is a proceedings of a workshop on quality control sponsored by the World Health Organization (WHO) and the Institute for Radiation Hygiene held in Neuherberg in 1983.

Most workshops have experts who lecture and then provide instructional laboratory sessions for attendees to learn and practice well-known techniques. However, this true workshop was given and attended by experts to derive and revise quality control (QC) recommendations. The primary goal of this workshop was to have expert participants validate WHO QC recommendations for the appropriateness of QC testing procedures.

Beginning with a section containing several introductory papers on QC and brief participant reports on the status of QC in various countries, this book also includes tables on the assessment of the practicability for each instrument and specific tests in the 1982 WHO recommendations as preliminary information for the present workshop.

The following section contains the workshop results, including comments on various aspects of QC testing. The manual for laboratory practice sessions is included as an appendix and covers the dose calibrator (termed activity meter), probe systems, rectilinear scanner, gamma camera (static and ECT), gamma camera (dynamic and computer), and a brief mention of radiopharmaceutical QC.

As mentioned, this is a proceedings from a truly working workshop to evaluate and validate QC testing. The appendix is not exactly a "cookbook" of testing procedures, but does indicate how tests should be performed and what certain results might mean. The subject matter is comprehensive for nearly all commonly used instruments, but may not serve as introductory material.

The section on SPECT imaging concentrates heavily on center of rotation, uniformity correction, and head tilt. Unfortunately, no recommendations are given for overall SPECT system testing (e.g., phantoms), and there is little information on reconstruction optimization which I personally feel is an important aspect of SPECT imaging.

These proceedings provide a valuable departmental or personal reference for individuals responsible for instrument QC. The greatest benefit for the reader will come only after careful study of this useful material since procedures, results, and discussions on a specific device or test appear in several places as the workshop proceeded.

PAUL E. CHRISTIAN, BS, CNMT  
University of Utah Medical Center  
Salt Lake City, Utah

*Editor's Note:* This book may be ordered from: MMV Medizin Verlag Munchen, Neumarkter Strasse 18, 8000 Munchen 80, Federal Republic of Germany.

**ESSENTIALS OF NUCLEAR MEDICINE SCIENCE**

William B. Hladik, III, Gopal B. Saha, and Kenneth T. Study, Williams and Wilkins, 1987, 440 pp, \$45.95.

According to the authors, "essentials do not equate to basics." The term essentials describes those areas which are of the utmost importance for effective communication on current information in nuclear medicine. This book is intended for all nuclear medicine personnel and is meant to ". . . compensate for current deficiencies in the secondary literature. . ." in areas used daily. Forty-five contributors prepared 26 chapters that are arranged into four sections: I. Considerations for the Clinical Use of Radiopharmaceuticals; II. Problems and Pitfalls Encountered with the Use of Radiopharmaceuticals; III. Considerations for the Preclinical and the Clinical Investigation of New Radiopharmaceuticals; and IV. Interactions among Nuclear Medicine Health Care Professionals and Patients.

Quite noteworthy is the section on problems and pitfalls, which contains four chapters on altered biodistribution of radiopharmaceuticals as a result of drug therapy, invasive techniques or pathologic disorders. Another chapter discusses reported adverse reactions. Many forms for IND and adverse reaction reporting are included. Although these examples tend to be outdated quickly, they do serve as a general reference. However, this book will not help ". . . drag the United States kicking and screaming into the 20th century?!" (Craddock, *J Nucl Med Technol* 1987;4:159) because it does not use or discuss SI units.

Although the first chapter discusses normal biodistribution of diagnostic radiopharmaceuticals, it is, however, marred by the omission of such common radiopharmaceuticals as  $^{51}\text{Cr}$  red blood cells, radioiodinated serum albumin,  $^{81\text{m}}\text{Kr}$ , or  $^{169}\text{Yb}$  DTPA. Furthermore, each biodistribution discussion lacks consistency in content from one radiopharmaceutical to another. As a nuclear medicine technologist, I felt that the chapters on patient preparation, instrumentation problems, and computers were very basic. The majority of the book is not for the casual reader, yet these three chapters lack depth. Perhaps other nuclear medicine professionals, e.g., physician or pharmacist, would find other chapters just as basic. I found it frustrating that questions in the chapter on information services on radiopharmaceuticals were not answered. Granted the questions were meant to show the breadth of the services and the methods used to get an answer, but at least some answers would have relieved this reader's frustration.

This well-referenced work is, however, highly recommended as an addition for every nuclear medicine professional's reference library and as an adjunct teaching reference.

MARIA V. NAGEL, MS, CNMT  
University of Nebraska Medical Center  
Omaha, Nebraska