
Diagnostic Nuclear Medicine

M.P. Sandler, R.E. Coleman, J.A. Patton, F.J.Th. Wackers, and A. Gottschalk, eds.

Philadelphia, PA: Lippincott Williams and Wilkins, 2003, 1,272 pages, \$229

This is the fourth edition of one of the most respected nuclear medicine textbooks, the last edition having been published in 1996. The book has been thoroughly updated, contains several new chapters, and is now in a single volume for easier reference. The emphasis of the book is on clinical nuclear medicine, and the fourth edition focuses on contemporary technologies and state-of-the-art reviews, particularly in PET/SPECT/CT systems; lymphoscintigraphy; oncologic, cardiologic, and neurologic applications of PET; and nuclear medicine therapy. The book is designed to be a reference for nuclear medicine specialists, radiologists, trainees, scientists, technologists, and health professionals with an interest in nuclear medicine.

Divided into 14 sections and 61 chapters, the book covers instrumentation, radiopharmaceuticals, cardiovascular imaging, pulmonary imaging, bone imaging, gastroenterology, hematology, endocrinology, neurology, nephrology, oncology, transplantation, pediatrics, and inflammation. A total of 126 internationally renowned contributors have written chapters for this tome.

The challenge of a comprehensive nuclear medicine textbook is to provide both an overview of the field and detailed insight into the evidence for clinical impact in individual subject areas. This book achieves this goal admirably. The linkage between chapters is excellent, the provision of background information and review of the literature is consistent in each chapter, and there is a lack of repetitiveness that can occur in multiauthor textbooks. The editors are to be commended for their efforts in this regard.

The chapters on instrumentation and radiopharmaceuticals provide an excellent overview of the physics and chemistry of nuclear medicine and the technology required for these endeavors. The advent of new technologies, including PET/CT and SPECT/CT, is covered well, and animal scanning is also briefly covered. The chapter on PET radiopharmaceuticals has substantial information on ^{18}F compounds but surprisingly little information on ^{11}C ligands, most likely because of space constraints. The chapters on radiation protection, dosimetry, and radiobiology provide a comprehensive overview of these areas.

The coverage of nuclear cardiology is excellent, with all aspects of ventricular function, myocardial perfusion imaging, and viability assessment clearly summarized and with extensive illustrations and case examples provided. Pulmonary imaging is well covered, although information is lacking on blood-pool imaging for assessment of deep venous thrombosis. Bone imaging is covered in depth, and the

chapter on athletic injuries is particularly well presented. A chapter on PET skeletal imaging is also included and gives perspective on the future potential of this imaging modality.

The chapters on gastroenterology provide an overview of upper gastrointestinal transit studies, cholescintigraphy, gastrointestinal bleeding, and blood-volume/ B_{12} absorption studies. These chapters are concise and well written by experts in the field. Interestingly, little information is given on liver imaging or studies of lower gastrointestinal transit. The section on endocrinology is excellent, and the chapters on thyroid imaging and therapy, and on bone densitometry in particular, are superb references. Chapters on PET in neuropsychiatry and SPECT brain imaging are good summaries. Renal nuclear medicine is well covered, and both imaging studies and in vitro assays are extensively reviewed.

Oncology is an increasingly important area in nuclear medicine, and the chapters in this section provide a complete perspective of the current state of the art. The chapters on gallium scanning and monoclonal imaging and therapy are excellent. PET in oncology is comprehensively reviewed, and a perspective on the current and future directions of this important field is presented. Sentinel node imaging is also covered, in a chapter that makes particular reference to melanoma and breast cancer indications. Finally, the treatment of metastatic bone pain with radionuclides is well summarized in a short chapter.

A particular strength of this book is the coverage of transplantation and of pediatric applications of nuclear medicine, which are comprehensive and well written. Infection imaging is the final section in the book, and the chapters on gallium and labeled cell imaging in infection are informative and authoritative. Of interest is that the final chapter, on infection imaging with antibodies, makes no mention of sulesomab (LeukoScan; Immunomedics, Inc.), which is approved in Europe.

Overall, the fourth edition of *Diagnostic Nuclear Medicine* is a superb reference textbook for nuclear medicine. It comprehensively covers technology, basic science, and, in particular, the clinical applications of nuclear medicine across the gamut of disease and clinical scenarios. The book should be included in every nuclear medicine reference library and is highly recommended.

Andrew Scott, MD

Ludwig Institute for Cancer Research
Melbourne, Australia