PET/CT in Neuroendocrine Tumors

A comprehensive guide to procedures and technologies, Nuclear Medicine and PET/CT: Technology and Techniques provides a single source for state-of-the-art information on all aspects of nuclear medicine. Coverage includes relevant anatomy and physiology and discusses each procedure in relation to the specific use of radiopharmaceuticals and the instruments required. Edited by experts in nuclear imaging and PET/CT, Paul E. Christian and Kristen M. Waterstram-Rich, this edition has a new chapter on MRI as it relates to nuclear medicine and includes practical, step-by-step instructions for procedures. PET/CT focus with hybrid PET/CT studies in several chapters provides cutting-edge information that is especially beneficial to working technologists. CT Physics and Instrumentation chapter introduces CT as it is applied to PET imaging for combined PET/CT studies. Authoritative, comprehensive resource conveys state-of-the-art information, eliminating the need to search for information in other sources. Foundation chapters cover basic math, statistics, physics, instrumentation, computers, lab science, radiochemistry, and pharmacology, allowing you to understand how and why procedures are performed. Accessible writing style and approach to basic science subjects simplifies topics, progressing from fundamentals to more complex concepts. More than 50 practice problems in the math and statistics chapter let you brush up on basic math skills, with answers provided in the back of the book. Key terms, chapter outlines, learning objectives, and suggested readings help you organize your study. A table of radionuclides used in nuclear medicine and PET is provided in the appendix for quick reference. A glossary provides definitions of key terms and important concepts. High-profile editors and contributors come from a variety of educational and clinical settings, providing a broad philosophic and geographic perspective. New MRI Physics, Instrumentation and Clinical Introduction chapter provides important background on MRI and its relationship with nuclear
medicine. Procedures boxes in body systems chapters provide step-by-step descriptions of clinical procedures. Updates and revisions keep you current with the latest advances. Expanded 16-page color insert includes more diagnostic images demonstrating realistic scans found in practice.

**PET and PET/CT Study Guide**

This text delivers the conceptual, factual, and interpretive information you need for clinical practice in nuclear medicine imaging, and for certification and recertification review.

**PET/CT in Radiotherapy Planning**

The PET and PET/CT Study Guide presents a comprehensive review of nuclear medicine principles and concepts necessary for passing PET specialty board examinations. The practice questions and content are similar to those found on the Nuclear Medicine Technology Certification Board (NMTCB) exam, allowing test takers to maximize their chances of success. The book is organized by test sections of increasing difficulty, with over 650 multiple-choice questions covering all areas of positron emission tomography, including radiation safety; radionuclides; instrumentation and quality control; patient care; and diagnostic and therapeutic procedures. Detailed answers and explanations to the practice questions follow. Supplementary appendices include common formulas, numbers, and abbreviations, along with a glossary of terms for easy access by readers. The PET and PET/CT Study Guide is a valuable reference for nuclear medicine technologists, nuclear medicine physicians, and all other imaging professionals in need of a concise review of the basics of PET and PET/CT imaging.

**Nuclear Medicine and PET/CT**

Completely updated with the latest advances in imaging technology, this quick-reference manual is the only procedures guide specifically geared to nuclear medicine technologists. It provides detailed, easy-to-follow instructions for 61 scan procedures, including listings of possible artifacts and problems that may arise during each scan. An extensive quick-reference section includes conversion tables, radiopharmaceutical dose ranges, pediatric dosing, anatomical drawings, standard drug interventions, lab tests, language translations, thyroid therapy information, and reproducible patient history sheets for 20 scans.

**Clinical PET and PET/CT**

This book is a pocket guide to the science and practice of PET/CT imaging of gynecological malignancies. The scientific principles of PET/CT, the radiopharmaceuticals used in the context of gynecological cancers, the role of PET/CT in these patients, the characteristic PET/CT...
findings, and limitations and pitfalls are all clearly described. In addition, information is provided on clinical presentation, diagnosis, staging, pathology, management, and radiological imaging. The book is published within the Springer series Clinicians' Guides to Hybrid Imaging, which is aimed at referring clinicians, nuclear medicine/radiology physicians, radiographers/technologists, and nurses who routinely work in nuclear medicine and participate in multidisciplinary meetings. Compiled under the auspices of the British Nuclear Medicine Society, the series is the joint work of many colleagues and professionals worldwide who share a common vision and purpose in promoting and supporting nuclear medicine as an important imaging specialty for the diagnosis and management of oncological and non-oncological conditions.

**Nuclear Medicine Technology**

**Radiology for PET/CT Reporting**

Master the latest imaging procedures and technologies in Nuclear Medicine! Medicine and PET/CT: Technology and Techniques, 8th Edition provides comprehensive, state-of-the-art information on all aspects of nuclear medicine. Coverage of body systems includes anatomy and physiology along with details on how to perform and interpret related diagnostic procedures. The leading technologies — SPECT, PET, CT, MRI, and PET/CT — are presented, and radiation safety and patient care are emphasized. Edited by nuclear imaging and PET/CT educator Kristen M. Waterstram-Rich and written by a team of expert contributors, this reference features new information on conducting research and managing clinical trials. Complete coverage of nuclear medicine eliminates the need to search for information in other sources. Foundations chapters cover basic math, statistics, physics and instrumentation, computers, lab science, radiochemistry, and pharmacology, allowing you to understand how and why procedures are performed. PET/CT focus with hybrid PET/CT studies provides information that is especially beneficial to working technologists. Accessible writing style and approach to basic science subjects simplifies topics, first introducing fundamentals and progressing to more complex concepts. Procedure boxes provide step-by-step instructions for clinical procedures and protocols, so you can perform each with confidence. CT Physics and Instrumentation chapter provides the knowledge needed for clinical success by introducing CT as it is applied to PET imaging for combined PET/CT studies. Key terms, chapter outlines, learning objectives, and suggested readings help you organize your study. Table of Radionuclides used in nuclear medicine and PET is provided in the appendix for quick reference. More than 50 practice problems in the Mathematic and Statistics chapter let you brush up on basic math skills, with answers provided in the back of the book. 12-page, full-color insert includes clear PET/CT scans showing realistic scans found in practice. A glossary provides definitions of key terms and important concepts. UPDATED content reflects the latest advances and provides the information you need to pass the boards. NEW information on conducting research and managing clinical trials prepares you more fully for clinical success. New information on administrative procedures includes coverage of coding and reimbursement. NEW practice tests on the Evolve companion website help you apply your knowledge. NEW! A second color in the design highlights the most important material for easier study and understanding.
PET and PET-CT in Oncology describes the principles of positron emission tomography and is a useful resource for incorporating the technique in clinical practice. In a clear and straightforward fashion, the book offers instructive information and overviews of the basic principles of PET and PET-CT as well as the routine clinical PET scanning procedures for all important oncological indications. It is designed to serve as a reference work for specialists in nuclear medicine and radiology (including therapy planning) and for oncologists. It also provides student and physicians in other medical specialties with a general introduction to the effective integration of this modern technique into routine clinical diagnostics. Above all, this volume illustrates the importance of PET and PET-CT in comparison with other imaging techniques.

Nuclear Medicine and PET/CT Cases features 194 clinically relevant cases that cover the full range of nuclear medicine, for a practical and easy-to-use review guide.

It is the mark of an instructed mind to rest satisfied with the degree of precision which the nature of the subject admits, and not to seek exactness where only an approximation of the truth is possible. Aristotle With the development of imaging techniques, the in vivo study of human anatomy and physiology has become possible with increasing "approximation of the truth." Advances have been made not only in data acquisition, but also in processing as well as visualization of functional and morphological data. Following the successful application of planar two-dimensional imaging approaches, more recently three-dimensional data acquisition and corresponding tomographic image reconstruction has become possible. With the rapid growth of computer support, advanced processing allows for user-friendly interaction with complex data sets. Classical x-ray imaging techniques have matured to excellent spatial resolution and contrast, which provide specific delineation of anatomical changes occurring in cardiovascular disease. In parallel, the use of tracer principles supported the successful introduction of nuclear medicine procedures for the functional characterization of physiology and pathophysiology. The application of such techniques were initially limited by relatively poor spatial resolution, but excelled in high sensitivity 30 years, scintigraphic imaging emerged from and specificity. In the last rectilinear scanning to planar gamma camera imaging and single-photon xvi Preface emISSIOn tomography (SPECT). Based on these advances and the experimental success of autoradiography, the potential of scintigraphy as a clinical and research tool has been well appreciated.
Rely on this concise, systematic introduction to the biology and epidemiology of human parasitic diseases. Explore an extensive series of photographs, line drawings, and plates that aid in the recognition of parasitic diseases and help to build a solid understanding of the fundamentals of diagnosis and treatment. Updated and enhanced, the 6th Edition features an expanded art program—now in full color.

**PET and PET-CT in Oncology**

Covering both the fundamentals and recent developments in this fast-changing field, Essentials of Nuclear Medicine and Molecular Imaging, 7th Edition, is a must-have resource for radiology residents, nuclear medicine residents and fellows, nuclear medicine specialists, and nuclear medicine technicians. Known for its clear and easily understood writing style, superb illustrations, and self-assessment features, this updated classic is an ideal reference for all diagnostic imaging and therapeutic patient care related to nuclear medicine, as well as an excellent review tool for certification or MOC preparation. Provides comprehensive, clear explanations of everything from principles of human physiology, pathology, physics, radioactivity, radiopharmaceuticals, radiation safety, and legal requirements to hot topics such as new brain and neuroendocrine tumor agents and hybrid imaging, including PET/MR and PET/CT. Covers the imaging of every body system, as well as inflammation, infection and tumor imaging; pearls and pitfalls for every chapter; and pediatric doses and guidelines in compliance with the Image Gently and Image Wisely programs. Features a separate self-assessment section on differential diagnoses, imaging procedures and artifacts, and safety issues with unknown cases, questions, answers, and explanations. Includes new images and illustrations, for a total of 430 high-quality, multi-modality examples throughout the text. Reflects recent advances in the field, including updated nuclear medicine imaging and therapy guidelines • Updated dosimetry values and effective doses for all radiopharmaceuticals with new values from the 2015 International Commission on Radiological Protection • Updated information regarding advances in brain imaging, including amyloid, dopamine transporter and dementia imaging • Inclusion of Ga-68 DOTA PET/CT for neuroendocrine tumors • Expanded information on correlative and hybrid imaging with SPECT/CT • New myocardial agents • and more. Contains extensive appendices including updated comprehensive imaging protocols for routine and hybrid imaging, pregnancy and breastfeeding guidelines, pediatric dosages, non-radioactive pharmaceuticals used in interventional and cardiac stress imaging, and radioactivity conversion tables.

**Emission Tomography**

This pocket book provides up-to-date descriptions of the most relevant features of neuroendocrine tumors (NETs) and the imaging modalities currently available to assist specialists (clinicians, pathologists, radiologists, nuclear medicine physicians) in selecting optimal patient management based on interdisciplinary collaboration. As the title indicates, the focus is particularly on PET/CT, with coverage of basic principles, the available radiopharmaceuticals, indications, typical and atypical appearances, normal variants and artifacts, advantages, limitations, and pitfalls. In addition, succinct information is provided on the use of other imaging modalities, including SPECT, CT, and MRI, and on pathology and treatment options. Imaging teaching cases are presented, and key points are highlighted throughout. The book is
published as part of a series on hybrid imaging that is specifically aimed at referring clinicians, nuclear medicine/radiology physicians, radiographers/technologists, and nurses who routinely work in nuclear medicine and participate in multidisciplinary meetings.

**Cardiac Positron Emission Tomography**

Praise for this book: Sure to be a hit -- just like the first edition. All the chapters are well written and the accuracy of information is impressive. We cannot recommend the book strongly enough.--RAD Magazine

Returning in a second edition, this practical book presents oncological and nononcological applications for PET and PET/CT for the full range of scenarios frequently encountered in the professional setting. Placing special emphasis on PET/CT correlation and FDG oncological imaging, it opens with a thorough introduction to fundamental science and clinical basics. Each chapter in the Oncological Applications section of the book describes the role of PET and PET/CT in the management of specific diseases, providing succinct descriptions of indications and comparisons with other imaging modalities. Highlights: New chapters covering PET/CT for pediatric patients; the use of FDG PET in the evaluation of infection and inflammation; and the role of PET and PET/CT in radiation therapy planning; and FDG biology. More than 500 high-quality images, including state-of-the-art color PET/CT images. Pearls and pitfalls that emphasize critical concepts. Discussion of normal variations and benign findings. Thorough review of the current literature on PET/CT. This compact book provides readers with the tools to sharpen their assessment and decision-making skills. Organized efficiently to enable rapid reference to key concepts, this concise text is ideal for residents and practitioners in radiology, nuclear medicine, oncology, radiation oncology, and nuclear medicine technology.

**Nuclear Medicine and PET/CT - E-Book**

PET and SPECT are two of today’s most important medical-imaging methods, providing images that reveal subtle information about physiological processes in humans and animals. Emission Tomography: The Fundamentals of PET and SPECT explains the physics and engineering principles of these important functional-imaging methods. The technology of emission tomography is covered in detail, including historical origins, scientific and mathematical foundations, imaging systems and their components, image reconstruction and analysis, simulation techniques, and clinical and laboratory applications. The book describes the state of the art of emission tomography, including all facets of conventional SPECT and PET, as well as contemporary topics such as iterative image reconstruction, small-animal imaging, and PET/CT systems. This book is intended as a textbook and reference resource for graduate students, researchers, medical physicists, biomedical engineers, and professional engineers and physicists in the medical-imaging industry. Thorough tutorials of fundamental and advanced topics are presented by dozens of the leading researchers in PET and SPECT. SPECT has long been a mainstay of clinical imaging, and PET is now one of the world’s fastest growing medical imaging techniques, owing to its dramatic contributions to cancer imaging and other applications. Emission Tomography: The Fundamentals of PET and SPECT is an essential resource for understanding the technology of SPECT and PET, the most widely used forms of molecular imaging. *Contains thorough tutorial treatments, coupled with
PET/CT in Thyroid Cancer

The 3rd edition of this classic – considered the standard in the field - reflects the latest advances in PET, SPECT, and oncology. Updated to incorporate cutting-edge diagnostic techniques, it serves as a bedrock resource for physicians whose nuclear medicine practices include children and provides a vast amount of background material for residents in training. The new edition retains the fundamental standard of excellence that earned its predecessors such a distinguished reputation. It has been thoroughly updated to incorporate cutting-edge diagnostic techniques. Pediatric Nuclear Medicine/PET, Third Edition is an indispensable resource for physicians whose practices include children and provides a vast amount of background material for residents in training.

Clinical Nuclear Medicine

Positron Emission Tomography with Computed Tomography (PET/CT) is a nuclear medicine imaging modality using positron-emitting radiotracers and a combined PET and CT scanner in order to detect and localize high radiotracer signal abnormalities. Although PET has evolved into a diagnostic modality of prime importance in oncology (with the radiotracer (F18-FDG) it was originally envisioned to image and diagnose diseases of the brain and the heart. Lack or limited experience in PET may result in an erroneous interpretation of the findings in this sensitive imaging modality. The existence of various rare cancers has resulted in scanty if not a lack of knowledge about the usefulness of PET in these interesting albeit uncommon maladies. The author, drawing from more than ten years of experience as the chairman/director of the only PET Center in the Philippines, aims to present the most interesting cases he has encountered which may be educational to those beginning their practice or even helpful to veterans of the field whose scope of practice has been limited to the most common and reimbursable indications of an FDG-PET scan.

Nuclear Medicine, The Requisites (Expert Consult – Online and Print), 4

Provides a general update of all chapters, a new chapter on CT physics and instrumentation, and a revised focus to the increasingly important PET/CT systems. All aspects of nuclear medicine are explored, with a focus on pertinent anatomy and physiology and a discussion of each procedure in relation to the specific use of radiopharmaceuticals and instruments required.

Nuclear Medicine and Pet/Ct
Essentials of Nuclear Medicine and Molecular Imaging E-Book

This pocket guide provides concise discussion on the effective use of PET and PET/CT in patient management for a wide range of clinical conditions. Introductory chapters cover the fundamentals: basic science, patient preparation, and logistical considerations. The body of the guide examines the role of PET in the management of malignancies such as lymphoma, melanoma, and colorectal cancer. Additional chapters discuss use of PET for pancreatic, ovarian, and cervical cancers, sarcoma, and seminoma, and outlines cardiologic and neurologic applications. The final chapter considers the appropriateness, timing, and limitations of PET in common clinical case scenarios. Select images supplement the text.

Nuclear Medicine and PET/CT

The long-awaited third edition of An Atlas of Clinical Nuclear Medicine has been revised and updated to encapsulate the developments in the field since the previous edition was published nearly two decades ago. Highlights of the Third Edition: Adopts a structured format throughout for quick assimilation Includes expanded coverage of new radiopharmaceuticals, PET/CT, and SPECT/CT Contains new chapters on paediatrics, oncology, and infection imaging Presents a comprehensive set of top-quality nuclear image scans Provides helpful teaching points The previous editions of this book received various awards, including Honorable Mention from the Association of American Publishers in 1988 and the Glaxo Prize for Medical Writing in 1989. This foundation has been built upon and expanded to provide the ultimate guide for beginners, those in training, and experienced practitioners.

Nuclear Medicine and Pet/CT

A comprehensive guide to procedures and technologies, this book provides a single source for state-of-the-art information on all aspects of nuclear medicine. Coverage includes relevant anatomy and physiology and discusses each procedure in relation to the specific use of radiopharmaceuticals and the instruments required. Edited by experts in nuclear imaging and PET/CT, Paul E. Christian and Kristen M. Waterstram-Rich, this edition has a new chapter on MRI as it relates to nuclear medicine and includes practical, step-by-step instructions for procedures. PET/CT focus with hybrid PET/CT studies in several chapters provides cutting-edge information that is especially beneficial to working technologists. CT Physics and Instrumentation chapter introduces CT as it is applied to PET imaging for combined PET/CT studies. Authoritative, comprehensive resource conveys state-of-the-art information, eliminating the need to search for information in other sources. Foundation chapters cover basic math, statistics, physics, instrumentation, computers, lab science, radiochemistry, and pharmacology, allowing you to understand how and why procedures are performed. Accessible writing style and approach to basic science subjects simplifies topics, progressing from fundamentals to more complex concepts. More than 50 practice problems in the math and statistics chapter let you
brush up on basic math skills, with answers provided in the back of the book. Key terms, chapter outlines, learning objectives, and suggested readings help you organize your study. A table of radionuclides used in nuclear medicine and PET is provided in the appendix for quick reference. A glossary provides definitions of key terms and important concepts. High-profile editors and contributors come from a variety of educational and clinical settings, providing a broad philosophic and geographic perspective. New MRI Physics, Instrumentation and Clinical Introduction chapter provides important background on MRI and its relationship with nuclear medicine. Procedures boxes in body systems chapters provide step-by-step descriptions of clinical procedures. Updates and revisions keep you current with the latest advances. Expanded 16-page color insert includes more diagnostic images demonstrating realistic scans found in practice.

**Nuclear Medicine and PET/CT**

**Clinical PET-CT in Radiology**

The PET Imaging Science Center at the University of Southern California is recognized as one of the premier PET centers. The director, Dr. Peter Conti, is a distinguished leader in the field. He and one of his top nuclear medicine fellows, Dr. Daniel Cham, have published one of the first PET-CT case based books. The text is heavily illustrated with original PET-CT images of both common and uncommon cancer cases. Each of the clinical applications is accompanied by a concise explanation of the history, findings, and impression of the PET-CT case. Insightful discussions and "pearls and pitfalls" are included to help physicians gain a better understanding of pathology, diagnosis, and imaging techniques. The reader also finds sections on physiology, technical artifacts, and applications for neurological and cardiovascular disorders. This unique book is ideal for nuclear medicine practitioners, nuclear medicine residents, and clinicians interested in medical imaging.

**Atlas of PET/CT Imaging in Oncology**

The aim of this book is to provide concise information and quick reference on the basics and practice of PET/CT for beginners. The chapters are written by Nuclear Medicine experts from different countries with enormous experience in PET/CT practice. Starting with the basics of PET/CT describing physics and the use of radiopharmaceuticals in PET/CT, the book explores the principle of PET/CT in radiotherapy planning. The last five chapters explore normal variation, pitfalls and artefacts commonly seen with various routinely used PET radiotracers. The text is enriched by tables and highlighted clinical cases for better understanding. This book will be of interest mostly to nuclear medicine physicians and radiologists, but it may be appealing also to a wider medical community including oncologists and radiotherapists.

**Positron Emission Tomography with Computed Tomography (PET/CT)**
In the new edition of this very successful book, European and North American experts present the state of the art in diagnostic and therapeutic radionuclide procedures. The aim is to examine established and emerging clinical applications in detail, rather than to consider everything included in the comprehensive texts already available within the field. This “practical” approach ensures that the book will be a valuable guide for nuclear medicine physicians, technologists, students, and interested clinicians alike. This edition of Clinical Nuclear Medicine has been extensively revised to take account of recent developments. The roles of SPECT/CT, PET/CT, and PET/MRI are clearly explained and illustrated, and the coverage extended to encompass, for example, novel PET tracers and therapeutic radionuclides, advanced techniques of brain imaging, and the development of theranostics. Readers will be fully persuaded of the ever-increasing value of nuclear medicine techniques in depicting physiology and function and complementing anatomic modalities such as CT, MRI, and ultrasound.

**Essentials of Nuclear Medicine Imaging**

Written by leading experts in the field, Atlas of PET/CT Imaging in Oncology teaches radiologists and nuclear medicine specialists about important aspects of molecular imaging and nuclear medicine specialists about the benefits of anatomic imaging. Thoroughly illustrated throughout (mostly in color), this cutting-edge title consists of a brief didactic portion and an extensive selection of interesting and challenging case examples. A special feature of the atlas is an interactive CD-ROM that provides the original PET and CT images of each case in selected planes enabling the users to manually adjust the blending intensity of each modality in a fused image -- to see the PET, the CT, and then the PET/CT image. In addition, users can display the clinical history, imaging techniques and diagnostic findings of each case as well as the corresponding specific teaching point. A must for Nuclear Medicine specialists and oncologists alike.

**PET/CT in Gynecological Cancers**

A comprehensive guide to procedures and technologies, Nuclear Medicine and PET/CT: Technology and Techniques provides a single source for state-of-the-art information on all aspects of nuclear medicine. Coverage includes relevant anatomy and physiology and discusses each procedure in relation to the specific use of radiopharmaceuticals and the instruments required. Edited by experts in nuclear imaging and PET/CT, Paul E. Christian and Kristen M. Waterstram-Rich, this edition has a new chapter on MRI as it relates to nuclear medicine and includes practical, step-by-step instructions for procedures. PET/CT focus with hybrid PET/CT studies in several chapters provides cutting-edge information that is especially beneficial to working technologists. CT Physics and Instrumentation chapter introduces CT as it is applied to PET imaging for combined PET/CT studies. Authoritative, comprehensive resource conveys state-of-the-art information, eliminating the need to search for information in other sources. Foundation chapters cover basic math, statistics, physics, instrumentation, computers, lab science, radiochemistry, and pharmacology, allowing you to understand how and why procedures are performed. Accessible writing style and approach to basic science subjects simplifies topics, progressing from fundamentals to more complex concepts. More than 50 practice problems in the math and statistics chapter let you brush up on basic math skills, with answers provided in the back of the book. Key terms,
chapter outlines, learning objectives, and suggested readings help you organize your study. A table of radionuclides used in nuclear medicine and PET is provided in the appendix for quick reference. A glossary provides definitions of key terms and important concepts. High-profile editors and contributors come from a variety of educational and clinical settings, providing a broad philosophic and geographic perspective. New MRI Physics, Instrumentation and Clinical Introduction chapter provides important background on MRI and its relationship with nuclear medicine. Procedures boxes in body systems chapters provide step-by-step descriptions of clinical procedures. Updates and revisions keep you current with the latest advances. Expanded 16-page color insert includes more diagnostic images demonstrating realistic scans found in practice.

**PET/CT in Colorectal Cancer**

This book is a pocket guide to the science and practice of PET/CT imaging of colorectal malignancies. The role of PET/CT in these patients, the characteristic PET/CT findings, and the advantages and limitations of this hybrid modality are all clearly described. In addition, information is provided on clinical presentation, diagnosis, staging, pathology, management, and radiological imaging. The book is published within the Springer series Clinicians’ Guides to Radionuclide Hybrid Imaging, which is aimed at nuclear medicine/radiology residents and physicians, referring clinicians, radiographers/technologists, and nurses who routinely work in nuclear medicine and participate in multidisciplinary meetings. Compiled under the auspices of the British Nuclear Medicine Society, the series is the joint work of many colleagues and professionals worldwide who share a common vision and purpose in promoting and supporting nuclear medicine as an important imaging specialty for the diagnosis and management of oncological and non-oncological conditions.

**PET and PET/CT**

This pocket book provides a comprehensive review of the current use of PET/CT in thyroid cancer, offering a multidisciplinary perspective and explaining the role of PET/CT in relation to other imaging modalities. A key aim is to help readers to choose the correct imaging modality to answer the clinical question at hand, thereby assisting in patient management. Highlights of the book include the exquisite depiction of normal variants, pitfalls, and artifacts and a pictorial atlas of the types of thyroid cancer and their imaging appearances. Readers will also find helpful information on the relation of the clinical and pathological background to imaging. The book will be an excellent asset for practitioners and trainees in Nuclear Medicine and members of endocrine and oncology teams. It is published within the Springer series Clinicians’ Guides to Radionuclide Hybrid Imaging, in which leading professionals succinctly explain the importance of nuclear medicine in the diagnosis and management of oncological and non-oncological conditions.

**Nuclear Medicine and PET/CT Cases**
This state-of-the-art, lavishly illustrated atlas is your visual guide to fusion imaging of all parts of the body. It combines CT with molecular imaging modalities such as PET and SPECT, resulting in significantly enhanced resolution of tumors and other disease processes that give you a unique view into their diagnosis, localization, and spread. Edited by the pioneers of fusion imaging, this new resource will help you more accurately diagnose and effectively guide treatment of human malignancies, including head and neck, lung, colon, ovarian, breast, lymphoma, melanoma, and many others, as well as other diseases such as infections. Emerging techniques such as PET/CT and SPECT/CT offer better diagnostic accuracy. More than 1,000 full-color images help you solve your toughest diagnostic challenges. Hundreds of case studies of normal and abnormal findings provided by two leading academic centers in nuclear medicine let you compare your findings with theirs. Fusion imaging lets you provide the most appropriate treatment based on your findings. Summaries and Key Points boxes for each case assist you in locating key content more easily. The accompanying DVD-ROM, which contains many fully navigable PET/CT and SPECT/CT cases for viewing and analysis, with cross-modality image fusion offers exceptional visual guidance. This DVD-ROM uses RAPID Software provided by Hermes Medical Solutions, www.hermesmedical.com.

Practical SPECT/CT in Nuclear Medicine

This is a Pageburst digital textbook; A comprehensive guide to procedures and technologies, Nuclear Medicine and PET/CT: Technology and Techniques provides a single source for state-of-the-art information on all aspects of nuclear medicine. Coverage includes relevant anatomy and physiology and discusses each procedure in relation to the specific use of radiopharmaceuticals and the instruments required. Edited by experts in nuclear imaging and PET/CT, Paul E. Christian and Kristen M. Waterstram-Rich, this edition has a new chapter on MRI as it relates to nuclear medicine and includes practical, step-by-step instructions for procedures. PET/CT focus with hybrid PET/CT studies in several chapters provides cutting-edge information that is especially beneficial to working technologists. CT Physics and Instrumentation chapter introduces CT as it is applied to PET imaging for combined PET/CT studies. Authoritative, comprehensive resource conveys state-of-the-art information, eliminating the need to search for information in other sources. Foundation chapters cover basic math, statistics, physics, instrumentation, computers, lab science, radiochemistry, and pharmacology, allowing you to understand how and why procedures are performed. Accessible writing style and approach to basic science subjects simplifies topics, progressing from fundamentals to more complex concepts. More than 50 practice problems in the math and statistics chapter let you brush up on basic math skills, with answers provided in the back of the book. Key terms, chapter outlines, learning objectives, and suggested readings help you organize your study. A table of radionuclides used in nuclear medicine and PET is provided in the appendix for quick reference. A glossary provides definitions of key terms and important concepts. High-profile editors and contributors come from a variety of educational and clinical settings, providing a broad philosophic and geographic perspective. New MRI Physics, Instrumentation and Clinical Introduction chapter provides important background on MRI and its relationship with nuclear medicine. Procedures boxes in body systems chapters provide step-by-step descriptions of clinical procedures. Updates and revisions keep you current with the latest advances. Expanded 16-page color insert includes more diagnostic images demonstrating realistic scans found in practice.
Clinical PET and PET/CT, 2nd Edition presents a valuable overview of the basic principles and clinical applications of PET and PET/CT. Emphasis is placed on the familiarization of normal distribution, artifacts, and common imaging agents such as FDG in conjunction with CT, MRI, and US to establish the clinical effectiveness of PET and PET/CT. Practical information about updated PET and PET/CT scanners, imaging processing, correlation, and quantification of PET and PET/CT measurements is also presented. This book is divided into two sections, the first half dealing with the basic principles of PET and PET/CT for instrumentation, fusion, radiopharmaceuticals, radiosynthesis, safety, and cost analysis. The second part of this volume presents chapters on the clinical techniques and applications of PET and PET/CT for common oncologic, cardiologic, and neurologic diseases. Numerous full color images provide comprehensive coverage on essential clinical PET and PET/CT studies.

PET/CT

This book is specifically designed to meet the needs of practicing radiologists by offering a practical, unified approach to PET-CT. It details how to effectively apply PET-CT in patient management. Written by radiologists who fully appreciate and understand both PET and CT, the book details an integrated understanding of PET-CT as a combined modality. Clinical topics include PET-CT of thoracic malignancies, melanoma, and breast cancer. In addition, the book reinforces fundamental concepts, such as the role of imaging diagnosis in disease management.

Cardiac PET and PET/CT Imaging

Nuclear Medicine is a diagnostic modality which aims to image and in some cases quantify physiological processes in the body to highlight disease or injury. Within nuclear medicine, over the past few decades, major technological changes have occurred and concomitantly changes in the knowledge and skills required have had to evolve. One of the most significant technological changes has been the fusion of imaging technologies, to create hybrid systems such as SPECT/CT, PET/CT and PET/MR. With these changes in mind, Practical SPECT/CT in Nuclear Medicine provides a handy and informative guide to the purchase, clinical implementation and routine use of a SPECT/CT scanner. Practical SPECT/CT in Nuclear Medicine will be a valuable resource for all personnel working in nuclear medicine and it will be of particular value to trainees.

Pediatric Nuclear Medicine

Reading PET/CT scans is sometimes challenging. Not infrequently, abnormal findings on CT images are functionally silent and therefore
difficult for nuclear medicine practitioners to interpret. Furthermore, in general only a low-dose CT scan is produced as part of the combined PET/CT study, and the resulting CT images may prove suboptimal for image interpretation. This atlas is designed to enable nuclear medicine practitioners who routinely read PET/CT scans to recognize the most common CT abnormalities. Slice-by-slice descriptions are provided of anatomical structures as visualized on CT scans obtained in PET/CT studies. The CT findings that may be detected while reviewing PET/CT scans of various body regions and conditions are then illustrated and fully described. The concluding section of the book is devoted to the principal MRI findings in diseases which cannot be evaluated using PETs/CTs.

**PET/CT Imaging**

The Atlas of PET/CT Imaging in Oncology serves an educational purpose and is designed to teach radiologists and nuclear medicine specialists about important aspects of molecular imaging and nuclear medicine specialists about the benefits of anatomic imaging. It consists of a brief didactic portion and an extensive selection of interesting and challenging case examples. A special feature of the atlas is an interactive CD-ROM that provides the original PET and CT images of each case in selected planes enabling the users to manually adjust the blending intensity of each modality in a fused image. In addition, users can display the clinical history, imaging techniques and diagnostic findings of each case as well as the corresponding specific teaching point.

**Atlas of Clinical Nuclear Medicine, Third Edition**

This pocket book offers a succinct but comprehensive overview of the role of PET/CT in radiotherapy planning. Individual chapters are devoted to specific application of the technique to particular tumor types, including non-small cell lung, gastrointestinal, head and neck squamous cell, prostate, gynecological, and pediatric tumors. Helpful information is also presented on the practical implementation of PET/CT in routine oncological practice. Technical and logistical issues are discussed, and guidance provided on potential problems and pitfalls and available solutions. The book will be invaluable in assisting readers to exploit PET/CT’s ability to significantly improve delineation of tumor tissue through the addition of metabolic information to structural imaging data, thereby avoiding unnecessary radiation injury and associated complications while enhancing therapeutic effects and minimizing the risk of marginal recurrences. It is published within the Springer series Clinicians’ Guides to Radionuclide Hybrid Imaging, compiled under the auspices of the British Nuclear Medicine Society.

**PET/CT Imaging**

This book presents the most up-to-date information on the practice of cardiac PET and hybrid PET/CT. Each chapter takes a step-by-step approach, from basic principles of instrumentation, imaging, and protocols to advanced discussions of current and future clinical applications. Coverage also includes a perspective on other emerging imaging modalities, such as MRI, and the relative role of each. In addition, the
volume details the technical aspects of cardiac PET and PET/CT imaging. A library of original cases completes the text by illustrating interpretation and technical challenges in cardiac PET and hybrid PET/CT.

**PET-CT**

In the fast-changing age of precision medicine, PET/CT is increasingly important for accurate cancer staging and evaluation of treatment response. Fundamentals of Oncologic PET/CT, by Dr. Gary A. Ulaner, offers an organized, systematic introduction to reading and interpreting PET/CT studies, ideal for radiology and nuclear medicine residents, practicing radiologists, medical oncologists, and radiation oncologists. Synthesizing eight years’ worth of cases and lectures from one of the largest cancer centers in the world, this title provides a real-world, practical approach, taking you through the body organ by organ as it explains how to integrate both the FDG PET and CT findings to best interpret each lesion.

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