

Nuclear Medicine: The Essentials

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In contrast to the discipline of conventional radiology, to which medical school students, trainees, and many practitioners of medicine are heavily exposed, the field of nuclear medicine is somewhat specialized and requires special training for optimal understanding of its role in various domains in medicine. Therefore, there is a dire need for a simplified exposure to the specialty that provides some practical knowledge about the field and its unique role in the day-to-day practice of medicine. “The Essentials” series is a collection of radiology textbooks that follow such a standardized format. The series is designed to provide a practical tool for those who wish to gain a broad base of knowledge on various specialties in medical imaging. The content is confined to the essentials of the specialty and can be understood by the novice. However, enough details are included to be useful for those who teach the specialty and to provide a reference for health-care providers practicing the specialty of imaging. “The Essentials” books are compact in size and allow for residents and other interested groups to grasp practical knowledge about the various procedures that are offered by this specialty. Furthermore, the self-assessment sections provide multiple-choice questions at the end of each chapter. As such, this additional training is of particular benefit for those who are preparing for an image-rich computer-based examination for professional and maintenance certifications.

Currently, the field of nuclear medicine is the fastest-growing discipline in medical imaging. The recent introduction of novel radiopharmaceuticals for imaging and targeted therapy is revolutionary; therefore, educating trainees and the community at large about their applications in many disciplines is essential at this time. These include innovations in high-technology instruments related to digital and time-of-flight cameras, total-body PET instruments, PET/CT, PET/MRI, and SPECT/CT. This textbook provides a concise yet comprehensive overview of the field of molecular imaging that fits the criteria intended for “The Essentials” series. Each chapter describes the basics of physics, instrumentation, quality control, radiochemistry, radiation safety, and other essential information about each procedure.

The table of contents includes radiochemistry, instrumentation, physics, and radiation safety as introductions to technical bases for

performing various procedures. The clinical section deals with assessment of diseases and disorders of various organs and anatomic structures (thyroid, parathyroid, and neuroendocrine glands; central nervous system; skeleton; lungs; gastrointestinal tract; kidneys; and lymph nodes). Also, chapters are devoted to radiotheranostics, the essentials of pediatric nuclear medicine, quality assurance, and procedures on pregnant and lactating patients. Overall, the book includes 19 chapters.

The chapters are organized in a logical manner and describe in some detail the imaging techniques that practitioners of the discipline follow. Therefore, readers who may not be familiar with the role of nuclear medicine procedures will be able to comprehend the scope of this discipline in clinical settings. No critically important topics are missing from this comprehensive book.

The chapters are written by highly qualified and expert contributing authors with longstanding experience in their respective disciplines. The main authors, Drs. Jadvar and Colletti, have substantially contributed by writing several chapters of this book.

Overall, this book provides a well-balanced view of current applications of conventional nuclear medicine and PET. Therefore, the book is a strong medium for introducing physicians and scientists to ongoing activities in the field and their relevance to the day-to-day practice of medicine. There are no serious weaknesses to the overall content of the book. Additionally, the figures and tables are of high quality. Most of the figures in the book are selected from the authors’ own clinical files and are of high quality.

In conclusion, *Nuclear Medicine: The Essentials* provides a comprehensive and excellent review of the current practice of the field. Therefore, this book will be of great interest to trainees, technologists, and scientists, as well as to practitioners of this rapidly evolving specialty. As such, the book is highly recommended for those who wish to refresh their understanding of the field and its various applications in medicine.

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