

BOOKS AND PUBLICATIONS

All interested medical physicists are encouraged to have their names added to a list of available reviewers. Please rank your interest among radiation therapy, x-ray, imaging, nuclear medicine imaging, ultrasound imaging, MR imaging, radiation injury, radiation protection, and others. Make your interest known to Dimitris Mihailidis, Ph.D., Books Review Editor (dimitris@charlestonradiation.com). Include your name and e-mail address in the body of the response.

Clinical fundamentals for radiation oncologists. Hasan Murshed. Medical Physics Publishing, Madison, WI, 2011. 680 pp. (soft cover), Price: \$90.00. 978-1-930524-43-9.

Description

This book consists of basic reference material for radiation oncologists as a quick guideline. It is printed in a soft cover format with many quoted references with each cancer disease site. Each chapter has a layout that provides great details of clinical management methodology and current treatment approaches. This fundamental handbook is comprised of three parts consisting of eighteen chapters with focus on up-to-date treatment management procedures as well as radiation physics, biology, dosimetry, and safety. Radiation oncologists or even other cancer related professionals can easily search for the quick summary of most commonly treated cancers within a short period of time to obtain proper answers.

Purpose

This handbook intends to summarize, in a condensed format, the review of daily clinical duties for radiation oncologists. It also serves as a great reference book (carry in hand) for many oncology professionals to solve daily operational questions. Each chapter concentrates on sub-specialties in radiation oncology. This book focuses on “clinical fundamentals” for clinical staff to produce reasonable results in an efficient pattern of study. It is very practical in helping to improve knowledge for residents and refresh clinical management on current radiation oncology management.

Audience

This book acts as a quick reference for radiation oncologists and other interested professionals such as physicists, dosimetrists, and oncology residents. Radiation oncologists in a busy clinic can use this book as a quick reference

textbook to search clinical guidelines and crosscheck many clinical treatment protocols without going through lengthy steps in searching the literature.

Content/Features

As the title indicates, this book covers the clinical fundamentals and practices of radiation oncology. Part I describes the basic sciences of radiation oncology, which address physics, biology, planning, dosimetry, and even safety issues. Part II describes oncology care with clinical assessment and various disease management skills and guidelines. I found this to be particularly useful in comparison with the NCCN guidelines which are in a dispersed format. Part III describes palliative management and complications of radiation therapy, which were not organized in a booklet format in other textbooks. Those chapters are great studying materials for radiation oncologists to prevent and manage complications systematically. For each clinical disease site, a cancer therapy management process such as “staging-treatment (RT)-outcome-complication-followup” makes the flow extremely reader friendly. Colored figures of treatment plans, target contouring and margin definitions, and dose constraints for IMRT treatment are of great value in customizing each protocol suitable for radiation oncology practice. The unique format of this book emphasizes clinical treatment techniques which are great for board review and clinical references. The physics, biology, treatment planning and safety sections of the book deliver a very concise approach that interested readers can quickly generate suitable answers with refreshing knowledge. The impeccable detail in staging can really reduce the oncologist’s time in a busy practice. One unique characteristic is that the author briefly summarizes many reference materials in each cancer category. Comparison of these study outcomes

enhances the clinical value of cited publication references. Statistical modeling in this book delivers a concise message on how to analyze complex data in clinical trials. The acronyms and abbreviations are quite valuable to new residents in order to understand all the clinical treatment terms in oncology fields. Furthermore, the site specific clinical bibliography also provides a tremendous amount of resources for advanced investigational work.

Assessment/Comparison

As noted, this book provides very practical guidelines that many radiation oncology associates can search and find the solutions efficiently. This book provides immediate information for cancer meetings such as tumor boards or cancer mobility and mortality rounds, especially for busy private practice radiation oncologists. The short and precise language eliminates the unnecessary effort in finding answers among other textbooks. The radiation biology section is written in a way that residents can understand the basic principles. Radiation therapy clinical management is given a valuable overview from this book with the current practices in radiation oncology. This is definitely an excellent handbook for refreshing clinical knowledge for radiation oncologists and residents while they provide day to day operations in a radiation clinic.

Reviewed by Jack Yang, Ph.D.

Jack Yang currently serves as the Chief Physicist at Monmouth Medical Center, Saint Barnabas Health Care Systems at Long Branch, NJ. He is also the Associate Editor of the Journal of Medical Dosimetry, and chairman of the board of NACMPA (North American Chinese Medical Physicists Association). He is in charge of all clinical duties and acts as a senior consultant to the Radiation Oncology Department.

Dual Energy CT in Clinical Practice, Johnson, T., Fink, C., Schönberg, S. O., Reiser, M. F. Springer-Verlag, Berlin, Heidelberg, 2011. Hardcover, 219 pp. Price: \$239.00. ISBN: 978-3-642-01739-1.

Description

This book is a review of dual energy CT in clinical practice. It is edited by four radiologists well known for the clinical applications of dual energy CT technology. The contributing authors of the chapters are all renowned experts in CT physics or clinical application of dual energy CT technology. The book is divided into two major sections with six parts. Part I is a physics review of dual energy CT technology with five chapters: one chapter is a review of physics of dual energy CT, three chapters are devoted to approaches taken by different vendors, and the last chapter discusses post-processing of CT data. Parts II–VI discuss clinical applications of dual energy CT technology in different organ systems. Part II deals with the vascular system and consists of four chapters; Part III deals with thoracic imaging and has four chapters; Part IV deals with neuroradiological imaging; Part V deals with abdominal imaging with four chapters; finally Part VI deals with extremities with two chapters.

Purpose

The goal of the editors is to provide a comprehensive overview of dual energy CT technology and its clinical applications in radiology. To accomplish this goal, the editors have

assembled highly regarded researchers in dual energy CT to author the book's 20 chapters. Each clinical chapter starts with an abstract and follows a standard table of contents: clinical background, scan protocol, contrast injection, post-processing, diagnostic evaluation, and scientific evidence. In particular, the scientific evidence section helps the reader understand the clinical value of the application. This is a well-written textbook that is informative and provides practical advice backed with scientific evidence in the clinical application of dual energy CT.

Audience

The editors describe the book as being written for technicians and radiologists. The book is well organized and well suited for clinical physicists and research scientists interested in this field. Of particular interest is the neurological applications section discussing the use of gold nanoparticles in neuro-oncological and neurovascular imaging. With the rapid expansion of nanoparticle research in many universities, basic scientists in chemistry and engineering may benefit from this book. The book is also suited for medical physics graduate students entering this field.

Content/Features

The book starts with background information on the physics of dual energy CT technology. Three chapters deal with commercially available technologies from Siemens, Philips, and GE. This brings a balance in pre-

senting different approaches of three vendors. Each chapter starts with a table of contents and abstract. This format makes the book not only extremely user friendly, but also very useful as a source of references on the subject. Clinical Parts II through VI provide a wide application of this technology in various organ systems. The book is nicely formatted with clear illustrations and tables and each chapter ends with a list of references. There are numerous clinical illustrations and helpful tables in Parts II through VI. A comprehensive index is provided.

Assessment/Comparison

This book is a welcome addition to texts on CT physics and CT imaging. All the chapters are written by experts in dual energy CT technology or clinical radiology. The book should be required reading for clinical physicists and radiologists wishing to learn about the current state of dual energy CT technology and clinical applications. There is no direct competition for the book; this book uniquely fulfills subject matters that are not covered by other books.

Reviewed by Terry Yoshizumi, Ph.D.

Terry Yoshizumi is Professor of Radiology and Radiation Oncology at Duke University Medical Center. He serves as Radiation Safety Officer for Duke University and Duke University Medical Center. He is an elected Fellow of the American Association of Physicists in Medicine. He also served on the Board of Directors of the Health Physics Society.