Practical Essentials Of Intensity Modulated Radiation Therapy

This second edition of a bestseller provides a practical, user-friendly manual guiding the theory and practice of cardiac electrophysiolology. The handbook provides the specialist in training with a thorough grounding procedures, and clinical findings for clinicians. It provides a review of the main kinds of arrhythmia with illustrations of typical ECG findings supported where appropriate by correlative imaging. It also details the principal diagnostic and therapeutic procedures include implantation of pacemakers, resynchronization therapy, and ablation techniques.

This book elucidates the radiation therapy protocols and procedures for the management of adult patients presenting with primary benign and malignant central nervous system tumors. With the development of new treatment strategies and rapid advancement of radiation technology, it is crucial for radiation oncologists to maintain and refine their knowledge and skills. Dedicated exclusively to adult CNS radiation oncology, this textbook explores CNS tumors ranging from the common to the esoteric as well as secondary cancers of metastatic origin. The first half of the book is organized anatomically: tumors of the brain, spinal cord, leptomeninges, optic pathway, ocular choroid, and skull base. The second half covers primary CNS lymphoma, rare CNS tumors, metastatic brain disease, vascular conditions of the CNS, radiation-associated complications, and radiation modalities. Each chapter provides guidance on treatment field design, target delineation, and normal critical structure tolerance constraints.
in the context of the disease being treated. Learning objectives, case studies, and Maintenance of Certification Self-Assessment Continuing Medical Education-style questions and answers are incorporated throughout the book. This is an ideal guide for radiation oncologists, residents, and fellows, but medical students may also find value in the text. This book provides detailed, state-of-the-art information and guidelines on the latest developments, innovations, and clinical procedures in image-guided and adaptive radiation therapy. The first section discusses key methodological and technological issues in image-guided and adaptive radiation therapy, including use of implanted fiducial markers, management of respiratory motion, image-guided stereotactic radiosurgery and stereotactic body radiation therapy, three-dimensional conformal brachytherapy, target definition and localization, and PET/CT and biologically conformal radiation therapy. The second section provides practical clinical information on image-guided adaptive radiation therapy for cancers at all common anatomic sites and for pediatric cancers. The third section offers practical guidelines for establishing an effective image-guided adaptive radiation therapy program. With all of the misinformation regarding the effects of creatine supplementation on health and sports performance, this book brings together the information on how creatine affects body composition, exercise performance, and health. Supported by the International Society of Sports Nutrition, this volume is timely and vital for all professionals in the field of sports nutrition.

An expert refresher for the practicing audiologist and speech pathologist, as well as a comprehensive core text in audiology, this book serves several purposes. It provides a broad overview and firm understanding of the concepts that will lead to further training and clinical
practice. It also details the information needed to conduct audiological services and make interpretation and referrals.

Treatment of Cancer is a multi-author work and comprehensive guide on modern cancer treatment that aims to give clinician and student alike the framework for an integrated approach to patient care, including radiotherapy, chemotherapy, and surgery. Much information is presented in tables and charts for easy assimilation, and clear algorithms for patient pathways are included to make decisions straightforward while allowing for sound clinical judgement.

This unique, full-color reference offers a total team approach to radiation oncology treatment planning, incorporating the newest imaging techniques and offering a comprehensive discussion of clinical, physical, biological and technical aspects. A clear focus on the application of physical and clinical concepts to solve treatment planning problems helps you provide effective, state-of-the-art care for cancer patients. With authoritative coverage of the latest in sophisticated radiation oncology treatment modalities, the 4th Edition of Khan’s Treatment Planning in Radiation Oncology is an essential resource for the radiation oncologist, medical physicist, dosimetrist, and radiation therapist.

This textbook takes a unified view of the fundamentals of wireless communication and explains cutting-edge concepts in a simple and intuitive way. An abundant supply of exercises make it ideal for graduate courses in electrical and computer engineering and it will also be of great interest to practising engineers.

Practical Essentials of Intensity Modulated Radiation Therapy

This textbook is designed to help the busy radiation oncologist to accurately and confidently
delineate tumor volumes for conformal radiation therapy (including IMRT). The book provides an atlas of clinical target volumes (CTVs) for commonly encountered cancers, with each chapter illustrating CTV delineation on a slice-by-slice basis, on planning CT images. Common anatomic variants for each tumor are represented in individual illustrations, with annotations highlighting differences in coverage. The anatomy of each site and patterns of lymphatic drainage are discussed, and their influence on the design of CTVs is explained in detail. Utilization of other imaging modalities, including MRI, to delineate volumes is highlighted. Key details of simulation and planning are briefly reviewed. Although the emphasis is on target volume delineation for conformal techniques, information is also provided on conventional radiation field setup and design when IMRT is not suitable.

Ideal for on-the-spot consultation, this pocket manual, Radiation Oncology: Management Decisions, provides easily accessible information for residents and practitioners in radiation oncology. It presents the most essential information that is immediately required in the clinical setting. The first eight chapters of the book focus on key basic concepts; the remaining 46 chapters describe treatment regimens for all cancer sites and tumor types. Includes coverage of pain and palliation, and covers all latest therapeutic techniques. This edition includes expanded information on image-guided therapy, 3D techniques, and 4D protocols. The updated cancer staging guidelines have been used throughout the manual. In addition, there is a brand-new chapter devoted to QUANTEC dosage recommendations.

"This book by Lisa Tauxe and others is a marvelous tool for education and research in Paleomagnetism. Many students in the U.S. and around the world will welcome this publication, which was previously only available via the Internet. Professor Tauxe has
performed a service for teaching and research that is utterly unique."—Neil D. Opdyke, University of Florida

Clinical conformal radiotherapy is the holy grail of radiation treatment and is now becoming a reality through the combined efforts of physical scientists and engineers, who have improved the physical basis of radiotherapy, and the interest and concern of imaginative radiotherapists and radiographers. Intensity-Modulated Radiation Therapy describes in detail the physics germane to the development of a particular form of clinical conformal radiotherapy called intensity modulated radiation therapy (IMRT). IMRT has become a topic of tremendous importance in recent years and is now being seriously investigated for its potential to improve the outcome of radiation therapy. The book collates the state-of-the-art literature together with the author's personal research experience and that of colleagues in the field to produce a text suitable for new research workers, Ph.D. students, and practicing radiation physicists that require a thorough introduction to IMRT. Fully illustrated, indexed, and referenced, the book has been prepared in a form suitable for supporting a teaching course.

The first clinical book on the hottest topic in radiation oncology, this timely teaching text offers step-by-step guidance in use of IMRT for cancers at each subsite of the head and neck. The book's high-end content gives readers the clinical decision-making expertise and technical proficiency to incorporate this state-of-the-art radiation treatment technique into practice. Unique to this text is the site-specific instruction on target determination and delineation, to ensure adequate treatment of the tumor target while sparing adjacent normal tissue. More than 250 detailed full-color and black-and-white illustrations clarify each step in clinical implementations of head and neck cancer treatment, especially IMRT. The book provides a
concise, pertinent overview of the natural course, lymph node spread, diagnostic criteria, and therapeutic options for each head and neck cancer subsite. Numerous tables provide extensive summaries of the IMRT literature. Figures with succinct explanatory text demonstrate the patterns of direct tumor extension and nodal metastasis with which target volumes are determined and delineated. Clinical outcomes for patients treated with IMRT and with conventional techniques are also included.

Planning is a critical stage of radiotherapy. Careful consideration of the complex variables involved and critical assessment of the techniques available are fundamental to good and effective practice. First published in 1985, Practical Radiotherapy Planning has, over three editions, established itself as the popular choice for the trainee radiation oncologist and radiographer, providing the 'nuts and bolts' of planning in a practical and accessible manner. This fourth edition encompasses a wealth of new material, reflecting the radical change in the practice of radiotherapy in recent years. The information contained within the introductory chapters has been expanded and brought up to date, and a new chapter on patient management has been added. CT stimulators, MLC shieldings and dose profiles, principles of IMRT, and use of MRI, PET and ultrasound are all included, amongst other new developments in this field. The aim of the book remains unchanged. Complexity of treatment planning has increased greatly, but the fourth edition continues to emphasise underlying principles of treatment that can be applied for conventional, conformal and novel treatments, taking into account advances in imaging and treatment delivery.

This book concisely reviews important advances in radiation oncology, providing practicing radiation oncologists with a fundamental understanding of each topic and an appreciation of its
significance for the future of radiation oncology. It explores in detail the impact of newer imaging modalities, such as multiparametric magnetic resonance imaging (MRI) and positron emission tomography (PET) using fluorodeoxyglucose (FDG) and other novel agents, which deliver improved visualization of the physiologic and phenotypic features of a given cancer, helping oncologists to provide more targeted radiotherapy and assess the response. Due consideration is also given to how advanced technologies for radiation therapy delivery have created new treatment options for patients with localized and metastatic disease, highlighting the increasingly important role of image-guided radiotherapy in treating systemic and oligometastatic disease. Further topics include the potential value of radiotherapy in enhancing immunotherapy thanks to the broader immune-stimulatory effects, how cancer stem cells and the tumor microenvironment influence response, and the application of mathematical and systems biology methods to radiotherapy.

Publisher's Note: Products purchased from 3rd Party sellers are not guaranteed by the Publisher for quality, authenticity, or access to any online entitlements included with the product. Updated with details on the newest therapies and sporting a new full-color design, this latest edition of Radiation Oncology: Management Decisions continues to offer comprehensive guidance for residents as well as radiation oncologists already in professional practice. You’ll discover the latest treatment plans for numerous cancer sites and tumor types, including the mouth and sinus, gastrointestinal areas, lungs, bones, and blood. Concise,
easy-to-read material you can use in a clinical setting immediately with patients! Perfect for radiation oncologists, medical physicists, and residents in both fields, Practical Radiation Oncology Physics provides a concise and practical summary of the current practice standards in therapeutic medical physics. A companion to the fourth edition of Clinical Radiation Oncology, by Drs. Leonard Gunderson and Joel Tepper, this indispensable guide helps you ensure a current, state-of-the art clinical practice. Covers key topics such as relative and in-vivo dosimetry, imaging and clinical imaging, stereotactic body radiation therapy, and brachytherapy. Describes technical aspects a.

This book addresses the day-to-day treatment planning issues that radiation oncologists are likely to encounter during the treatment of breast cancer patients and provides numerous practical “tips” that will assist in navigation of the treatment planning process, from delineation of the tumor boundaries to discrimination of adjacent normal tissues and critical structures at risk of radiation injury. Differences in target delineation and treatment planning according to technique are emphasized, with coverage of conventional radiation therapy and advanced techniques including cardiac-sparing approaches, e.g., using active breathing control, intensity-modulated radiation therapy, proton beam therapy, and electron beam therapy post mastectomy. Individual chapters also focus on
radiation setup and verification techniques and radiation treatment planning systems. The book, which is part of the Springer series Practical Guides in Radiation Oncology, is designed for hands-on use by radiation oncology residents/fellows in training and practicing radiation oncologists. The third edition of Intensity Modulated Radiation Therapy was written to enhance the reader’s understanding of the cutting-edge technology of Intensity Modulated Radiation Therapy. It is designed to both update old readers and inform new readers about the complexities and details of clinical management. This completely updated edition provides a step-by-step, practical approach to the use of IMRT in the evaluation and treatment of cancer patients. Because of IMRT’s ability to employ individually controlled beamlets, it is an extremely promising technique, especially when paired with CT, PET, and/or MRI. With these improved procedures, doctors and clinicians will be able to take high resolution images of tumors while minimizing dosages to surrounding tissue. In order to focus on the most up to date IMRT techniques, the introductory chapters have been condensed to provide a brief overview of IMRT physics, mechanics and quality assurance, and also CT and MR imaging. To help assist in clinical decision-making it provides the reader with more than 700 full-color illustrations, IMRT tables and clear, straightforward descriptions that address a range of tumor
types and sites including head and neck, urinary, and gynecologic cancers. Since it was first published in 1995, Photonic Crystals has remained the definitive text for both undergraduates and researchers on photonic band-gap materials and their use in controlling the propagation of light. This newly expanded and revised edition covers the latest developments in the field, providing the most up-to-date, concise, and comprehensive book available on these novel materials and their applications. Starting from Maxwell's equations and Fourier analysis, the authors develop the theoretical tools of photonics using principles of linear algebra and symmetry, emphasizing analogies with traditional solid-state physics and quantum theory. They then investigate the unique phenomena that take place within photonic crystals at defect sites and surfaces, from one to three dimensions. This new edition includes entirely new chapters describing important hybrid structures that use band gaps or periodicity only in some directions: periodic waveguides, photonic-crystal slabs, and photonic-crystal fibers. The authors demonstrate how the capabilities of photonic crystals to localize light can be put to work in devices such as filters and splitters. A new appendix provides an overview of computational methods for electromagnetism. Existing chapters have been considerably updated and expanded to include many new three-dimensional photonic crystals, an extensive tutorial on device design using
temporal coupled-mode theory, discussions of diffraction and refraction at crystal interfaces, and more. Richly illustrated and accessibly written, Photonic Crystals is an indispensable resource for students and researchers. Extensively revised and expanded

Features improved graphics throughout

Includes new chapters on photonic-crystal fibers and combined index-and band-gap-guiding

Provides an introduction to coupled-mode theory as a powerful tool for device design

Covers many new topics, including omnidirectional reflection, anomalous refraction and diffraction, computational photonics, and much more.

Offering practical approaches to common clinical problems, Gynecologic Radiation Oncology: A Practical Guide compiles the extensive clinical experience of Drs. Patricia J. Eifel and Ann H. Klopp from MD Anderson Cancer Center into one user-friendly volume. This reference addresses practical aspects of the field: how to evaluate the role of radiation therapy in various clinical settings, how to explain the rationale for treatment recommendations to referring physicians and patients, when and how to apply various external beam and brachytherapy techniques to address specific clinical problems, and how to monitor and manage patients during and after treatment. The book focuses on the following items, which can have immediate application to the treatment of patients with gynecologic cancers.
Head and Neck Imaging, by Drs. Peter M. Som and Hugh D. Curtin, delivers the encyclopedic and authoritative guidance you’ve come to expect from this book – the expert guidance you need to diagnose the most challenging disorders using today’s most accurate techniques. New state-of-the-art imaging examples throughout help you recognize the imaging presentation of the full range of head and neck disorders using PET, CT, MRI, and ultrasound. Enhanced coverage of the complexities of embryology, anatomy, and physiology, including original color drawings and new color anatomical images from Frank Netter, help you distinguish subtle abnormalities and understand their etiologies. Compare your imaging findings to thousands of crystal-clear examples representing every type of head and neck disorder. Gain an international perspective from global authorities in the field. Find information quickly with a logical organization by anatomic region. Master the latest approaches to image-guided biopsies and treatments. Utilize PET/CT scanning to its fullest potential, including head and neck cancer staging, treatment planning, and follow up to therapy. Visualize head and neck anatomy better than ever before with greatly expanded embryology, physiology and anatomy content, including original drawings and new color anatomical images. Grasp the finer points of head and neck imaging quickly with more images, more detail in the images, and more anatomic atlases with many
examples of anatomic variants.
One of the recent advances in Radiation Oncology and Treatment Planning is Volumetric Modulated Arc Therapy (VMAT). The treatment planning and dosimetry is complex for VMAT. The distinctive feature of this book is in providing a concise discussion of different VMAT concepts in simple language without going into too much detail. Another important feature of this book is that it includes an original Research Paper that compares three different VMAT optimization Algorithms (SmartArc, Ergo++ and Autobeam) with one another and against current gold standard and describes the Dosimetry and Modelling. The first 4 chapters provide the knowledge base required to understand the basic VMAT concepts and the research study discussed in 5th Chapter. Furthermore this book explains the Control Point Modelling process so that readers can learn how to do it on their own. The book is written to appeal a wider population including radiographers, students, physicists, dosimetrists and oncologists. Plenty of references are provided for those who would like to do further research and have deeper understanding of the VMAT.
The impetus for this book came from the recent appearance of single specialty books pertaining to reoperative surgery on various organs in the pelvis, as well as from the recognition that several different disciplines are involved with the challenges of
reoperative pelvic surgery. Surgeons often encounter challenging dilemmas involving organ systems that have historically been attended to by surgeons representing closely related but distinct specialty areas. Within increasing sophistication and knowledge about management of anatomically adjacent organs by the specialties of gynecologic oncology, gynecology, urology, and colon and rectal surgery, as well as the emergence of specialty training programs in urogynecology and pelvic floor disorders, we thought it appropriate and timely to create a textbook acknowledging this increasing knowledge and interspecialty collaboration. To this end, where appropriate, we have included collaborative authors from each of the specialties, any of whom may be called upon to address a particular anatomic area. It seems inevitable that situations will arise in which the collaborative expertise of several separate specialties may converge to provide surgeons the benefit of the combined thought processes that would prove invaluable when such difficult problems are encountered. With this in mind, the editors, from the fields of gynecologic oncology, urology, and colon and rectal surgery, identified experts in their own fields who could best contribute to the management of specific problem areas. For example, since reoperations for endometriosis may involve uterus, adnexae, ovaries, or the colorectum, the chapter concerning this condition has been coauthored by specialists in colorectal surgery and gynecologic oncology. We have been fortunate to find experts who have collaborated to bring available evidence-based medicine, best demonstrated practices, and personal
experience to their contributions.

Essentials of Clinical Radiation Oncology is a comprehensive, user-friendly clinical review that summarizes up-to-date cancer care in an easy-to-read format. Each chapter is structured for straightforward navigability and information retention beginning with a “quick-hit” summary that contains an overview of each disease, its natural history, and general treatment options. Following each "quick-hit" are high-yield summaries covering epidemiology, risk factors, anatomy, pathology, genetics, screening, clinical presentation, workup, prognostic factors, staging, treatment paradigms, and medical management for each malignancy. Each treatment paradigm section describes the current standard of care for radiation therapy including indications, dose constraints, and side effects. Chapters conclude with an evidence-based question and answer section which summarizes practice-changing data to answer key information associated with radiation treatment outcomes. Flow diagrams and tables consolidate information throughout the book that all radiation oncologists and related practitioners will find extremely useful when approaching treatment planning and clinical care. Essentials of Clinical Radiation Oncology has been designed to replicate a "house manual" created and used by residents in training and is a "one-stop" resource for practicing radiation oncologists, related practitioners, and radiation oncology residents entering the field.

Key Features: Offers digestible information as a learning guide for general practice
Examines essential clinical questions which are answered with evidence-based data
from important clinical studies Places clinical trials and data into historical context and points out relevance in current practice Provides quick reference tables on treatment options and patient selection, workup, and prognostic factors by disease site This evidence-based guide on the use of radiotherapy in patients with common malignancies of the lung, esophagus, and thymus will help radiation oncologists to deliver optimal care within a multidisciplinary setting. Detailed information is provided on all aspects, from delineation of tumor volumes and organs at risk based on four-dimensional CT simulation through to the various advanced radiotherapy techniques, including stereotactic ablative radiotherapy (SABR), intensity-modulated radiation therapy (IMRT), tomotherapy, volumetric modulated arc therapy (VMAT), and proton therapy. Contouring, treatment planning, and treatment delivery are documented in a range of everyday cases, with illustrations of slice-by-slice delineations on planning CT images and finalized treatment plans based on detailed acceptance criteria. Numerous practical tips are highlighted, and relevant information is included on surgical techniques and systemic therapies. The book will facilitate decision making in the management of patients with common thoracic malignancies and assist in overcoming the challenges encountered in daily clinical practice. This handbook is designed to enable radiation oncologists to treat patients appropriately and confidently by means of particle therapy. The orientation and purpose are entirely practical, in that the focus is on the physics essentials of delivery and
treatment planning, illustration of the clinical target volume (CTV) and associated
treatment planning for each major malignancy when using particle therapy, proton
therapy in particular. Disease-specific chapters provide guidelines and concise
knowledge on CTV selection and delineation and identify aspects that require the
exercise of caution during treatment planning. The treatment planning techniques
unique to proton therapy for each disease site are clearly described, covering beam
orientation, matching/patching field techniques, robustness planning, robustness plan
evaluation, etc. The published data on the use of particle therapy for a given disease
site are also concisely reported. In addition to fully meeting the needs of radiation
oncologists, this "know why" and “know how” guide to particle therapy will be valuable
for medical physicists, dosimetrists, and radiation therapists.
This book gives a comprehensive overview on the use of image-guided radiation
therapy (IGRT) in the treatment of lung cancer, covering step-by-step guidelines for
clinical implementations, fundamental principles and key technical advances. It covers
benefits and limitations of techniques as well as quality and safety issues related to
IGRT practice. Addresses imaging simulation, treatment planning, verification, and
delivery Discusses important quality assurance issues Describes current methods using
specialized machines and technologies Jing Cai, PhD, is an Associate Professor of
Radiation Oncology at Duke University Medical Center. Joe Y. Chang, MD, PhD, is
Professor in the Department of Radiation Oncology at The University of Texas MD
Anderson Cancer Center in Houston. Fang-Fang Yin, PhD, is Chief of the Division of Radiation Physics, Professor of Radiation Oncology, and Director of the Medical Physics program at Duke University.

Bridging the fields of conservation, art history, and museum curating, this volume contains the principal papers from an international symposium titled "Historical Painting Techniques, Materials, and Studio Practice" at the University of Leiden in Amsterdam, Netherlands, from June 26 to 29, 1995. The symposium—designed for art historians, conservators, conservation scientists, and museum curators worldwide—was organized by the Department of Art History at the University of Leiden and the Art History Department of the Central Research Laboratory for Objects of Art and Science in Amsterdam. Twenty-five contributors representing museums and conservation institutions throughout the world provide recent research on historical painting techniques, including wall painting and polychrome sculpture. Topics cover the latest art historical research and scientific analyses of original techniques and materials, as well as historical sources, such as medieval treatises and descriptions of painting techniques in historical literature. Chapters include the painting methods of Rembrandt and Vermeer, Dutch 17th-century landscape painting, wall paintings in English churches, Chinese paintings on paper and canvas, and Tibetan thangkas. Color plates and black-and-white photographs illustrate works from the Middle Ages to the 20th century.
The essential introduction to the principles and applications of feedback systems—now fully revised and expanded. This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback. Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots. Provides exercises at the end of every chapter. Comes with an electronic solutions manual. An ideal textbook for undergraduate and graduate students. Indispensable for researchers seeking a self-contained resource on control theory.
This handbook will enable radiation oncologists to appropriately and confidently select and delineate tumor volumes/fields for conformal radiation therapy, including intensity-modulated radiation therapy (IMRT), in patients with commonly encountered cancers. The orientation of this handbook is entirely practical, in that the focus is on the illustration of clinical target volume (CTV) delineation for each major malignancy. Each chapter provides guidelines and concise knowledge on treatment planning and CTV selection, explains how the anatomy of lymphatic drainage shapes target volume selection, and presents detailed illustrations of delineations, slice by slice, on planning CT images. While the emphasis is on target volume delineation for three-dimensional conformal therapy and IMRT, information is also provided on conventional radiation therapy field setup and planning for certain malignancies for which IMRT is not currently suitable.

Written by renowned wound care experts Sharon Baranoski and Elizabeth Ayello, in collaboration with an interdisciplinary team of experts, this handbook covers all aspects of wound assessment, treatment, and care.

The thoroughly updated fifth edition of this landmark work has been extensively revised to better represent the rapidly changing field of radiation oncology and to provide an understanding of the many aspects of radiation oncology. This edition places greater emphasis on use of radiation treatment in palliative and supportive
care as well as therapy.

The second edition of Neuro-Oncology: The Essentials presents a comprehensive, highly readable introduction to the fundamental science and core clinical concepts for successfully managing common problems in neuro-oncology. Tightly focused chapters provide up-to-date systematic coverage of biology, imaging, surgery, radiation, chemotherapy, and biological concepts. The book addresses specific tumor types in separate chapters, providing detailed discussion of background, incidence, clinical features, management, surgical approaches, recurrence, and outcomes. Highlights: Pearls, pitfalls, controversies, and special considerations in textboxes -- ideal for rapidly reviewing key points. More than 250 photographs and illustrations demonstrate important concepts. This book is an invaluable reference for neurosurgeons, neurologists, oncologists, residents and fellows in these specialties, as well as for students. This book is a concise and well-illustrated review of the physics and biology of radiation therapy intended for radiation oncology residents, radiation therapists, dosimetrists, and physicists. It presents topics that are included on the Radiation Therapy Physics and Biology examinations and is designed with the intent of presenting information in an easily digestible format with maximum retention in mind. The inclusion of mnemonics, rules of thumb, and reader-friendly
illustrations throughout the book help to make difficult concepts easier to grasp. Basic Radiotherapy Physics and Biology is a valuable reference for students and prospective students in every discipline of radiation oncology.
The articles in The Encyclopedia of Medical Devices and Instrumentation focus on what is currently useful or is likely to be useful in future medicine. They answer the question, What are the branches of medicine and how does technology assist each of them? Articles focus on the practice of medicine that is assisted by devices, rather than including, for example, the use of drugs to treat disease. The title is the only resource on the market dealing with the subject in encyclopedic detail. * Accessible to practitioners with a broad range of backgrounds from students to researchers and physicians * Articles cover the latest developments such as nanotechnology, fiber optics, and signal processing Medical Management of the Thoracic Surgery Patient, by Michael I. Lewis, MD and Robert J. McKenna, Jr., MD, is a comprehensive pulmonary and thoracic reference that takes a practical approach to the diagnosis, workup and care of the thoracic surgery patient. It is geared towards pulmonary and critical care physicians and their trainees as well as all other specialties with whom thoracic surgeons consult and interact. It outlines the principles for understanding the underlying disease entities as well as the clinical implications and complications
of surgery, and interprets key surgical concepts such as correlative and functional anatomy for non-surgeons. Contributions from today’s authorities...“at-a-glance detailed key information, as well as summary bullets...and a multidisciplinary perspective, combine to offer essential guidance for confident patient management. As an Expert Consult title it includes convenient online access to the complete contents of the book—fully searchable—along with video clips of thoracic procedures, patient information sheets, all of the images downloadable for your personal use, and references linked to Medline at www.expertconsult.com. Includes access to a companion website at expertconsult.com where you can search the complete contents of the book, watch video clips of thoracic procedures, print out patient information sheets, download all of the images, and review references linked to Medline...providing you with a powerful resource for convenient consultation anytime, anywhere. Features ‘real world’ illustrative cases presented in a brief, bulleted format that facilitates easy access to and retention of the material. Examines every aspect of diagnosis and management for pre-, peri-, and postoperative care for an all-encompassing reference to respond to unique surgical problems. Provides coverage of individual topics supplemented by a brief case-based presentation, where appropriate, that lend a real-life perspective to the material. Contains all of
the “need-to-know facts for a complete, thorough consultation in diagnosis and treatment of patients who undergo thoracic surgery. Offers practical information that utilizes the experience of today’s leaders while based on evidence in the literature for coverage you can trust. Examines current clinical controversies, providing you with an arena for discussion of sensitive topics and guidance on preferred approaches when relevant. Presents pearls, pitfalls, key points, and other learning elements in each chapter, to help you locate summaries of essential information “at-a-glance. Features chapters written by specialists of various disciplines, to equip you with a balanced perspective on each condition. Updated and expanded, this Second Edition of Essentials of Clinical Radiation Oncology continues to provide a succinct and effective review of the most important studies in the field. Organized by disease topic and grouped by body part, each chapter employs structured sections for targeted information retrieval and retention. Chapters begin with a "Quick Hit" overview of each disease summarizing the most significant paradigms before moving into dedicated summaries on epidemiology, risk factors, anatomy, pathology, genetics, screening, clinical presentation, workup, prognostic factors, staging, treatment paradigm, and medical management. An evidence-based question-and-answer section concludes each chapter, which pairs commonly encountered clinical
questions with answers connecting historical context and pertinent clinical studies to better inform decision-making and treatment planning. Providing the latest treatment paradigms and guidelines, this comprehensive second edition now outlines the evidence and must-know considerations for using radiation therapy with immunotherapy, the strategies for metastasis-directed therapy for oligometastatic disease, and much more. Written for the practicing radiation oncologist, related practitioner, and radiation oncology resident entering the field, this "one-stop" resource is the go-to reference for everyday practice. Key Features: Structured sections offer high-yield information for targeted review Cites need-to-know clinical studies and treatment guidelines in evidence-based question-and-answer format Each chapter has been reviewed and updated to include the most recent and relevant studies New chapters on spine tumors, thyroid cancer, sinonasal tumors, cholangiocarcinoma, renal cell carcinoma, multiple myeloma and plasmacytoma, miscellaneous pediatric tumors, and treatment of oligometastatic disease from underlying cancers Designed for quick reference with comprehensive tables on treatment options and patient selection, workup, and prognostic factors by disease site Purchase includes digital access for use on most mobile devices or computers