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KEY=RADIOBIOLOGY - URIEL BURKE

BASIC CLINICAL RADIOBIOLOGY

CRC Press Basic Clinical Radiobiology is a concise but comprehensive textbook setting out the essentials of the science and clinical application of radiobiology for those seeking accreditation in radiation oncology, clinical radiation physics, and radiation technology. Fully revised and updated to keep abreast of current developments in radiation biology and radiation oncology, this fifth edition continues to present in an interesting way the biological basis of radiation therapy, discussing the basic principles and significant developments that underlie the latest attempts to improve the radiotherapeutic management of cancer. This new edition is highly illustrated with attractive 2-colour presentation and now includes new chapters on stem cells, tissue response and the convergence of radiotherapy, radiobiology, and physics. It will be invaluable for FRCR (clinical oncology) and equivalent candidates, SpRs (and equivalent) in radiation oncology, practicing radiation oncologists and radiotherapists, as well as radiobiologists and radiotherapy physicists.

BASIC CLINICAL RADIOBIOLOGY, FIFTH EDITION

CRC Press Basic Clinical Radiobiology is a concise but comprehensive textbook setting out the essentials of the science and clinical application of radiobiology for those seeking accreditation in radiation oncology, clinical radiation physics, and radiation technology. Fully revised and updated to keep abreast of current developments in radiation biology and radiation oncology, this fifth edition continues to present in an interesting way the biological basis of radiation therapy, discussing the basic principles and significant developments that underlie the latest attempts to improve the radiotherapeutic management of cancer. This new edition is highly illustrated with attractive 2-colour presentation and now includes new chapters on stem cells, tissue response and the convergence of radiotherapy, radiobiology, and physics. It will be invaluable for FRCR (clinical oncology) and equivalent candidates, SpRs (and equivalent) in radiation oncology, practicing radiation oncologists and

radiotherapists, as well as radiobiologists and radiotherapy physicists.

BASIC RADIATION ONCOLOGY

Springer Nature This practical, up-to-date, bedside-oriented radiation oncology book encompasses the essential aspects of the subject with coverage on radiation physics, radiobiology, and clinical radiation oncology. The first two sections examine concepts that are crucial in radiation physics and radiobiology. The third section describes radiation treatment regimens appropriate for the main cancer sites and tumor types.

PRACTICAL RADIOBIOLOGY FOR PROTON THERAPY PLANNING

Myprint Practical Radiobiology for Proton Therapy Planning covers the principles, advantages and potential pitfalls that occur in proton therapy, especially its radiobiological modelling applications. This book is intended to educate, inform and to stimulate further research questions. Additionally, it will help proton therapy centres when designing new treatments or when unintended errors or delays occur. The clear descriptions of useful equations for high LET particle beam applications, worked examples of many important clinical situations, and discussion of how proton therapy may be optimized are all important features of the text. This important book blends the relevant physics, biology and medical aspects of this multidisciplinary subject.

RADIOBIOLOGY IN RADIOTHERAPY

Springer Science & Business Media The ninth annual multidisciplinary symposium on clinical oncology organized by the Royal College of Radiologists was jointly arranged with the International Society for Radiation Oncology. It was held in London in February 1987 and discussed the biological and clinical basis of the effects of radiotherapy. Wherever possible lectures by an experimental scientist were paired with those of a clinical scientist in order to emphasize clinical relevance. It is hoped that this has resulted in a widely balanced view of the subject. The volume presents an updated version of these subjects based on those talks. After surgery, radiotherapy is the main treatment used in the management of patients with cancer. Its empirical success when first introduced is now backed up by a wealth of laboratory, clinical and experimental experience. New techniques for adminis tering the conventional X-ray therapy have been supplemented by methods which can be used to modify the radiation response. These include changes in dose rate or fractionation, and combined modality treatments including sensitization by drugs or heat. Other types of radiation, such as neutrons and other particles, are also now available which have enhanced physical and biological advantages.

BASIC RADIOTHERAPY PHYSICS AND BIOLOGY

Springer 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.

RADIATION BIOLOGY OF MEDICAL IMAGING

John Wiley & Sons This book provides a thorough yet concise introduction to quantitative radiobiology and radiation physics, particularly the practical and medical application. Beginning with a discussion of the basic science of radiobiology, the book explains the fast processes that initiate damage in irradiated tissue and the kinetic patterns in which such damage is expressed at the cellular level. The final section is presented in a highly practical handbook style and offers application-based discussions in radiation oncology, fractionated radiotherapy, and protracted radiation among others. The text is also supplemented by a Web site.

RADIATION BIOLOGY FOR MEDICAL PHYSICISTS

CRC Press This book is designed to convey as much information as possible in a concise and simple way to make it suitable for students, researchers and clinical medical physicists. Better meanings, codes and examples are included. Most of the basics are also covered for easy reference along with a glossary of objective-type questions. Upon completion of this textbook, the readers will gather knowledge about the physics, chemistry and biology of the human body towards cancer treatment using radiation.

RADIOTHERAPY AND CLINICAL RADIOBIOLOGY OF HEAD AND NECK CANCER

CRC Press Common factors that lead to treatment failure in head and neck cancer are the lack of tumour oxygenation, the accelerated division of cancer cells during treatment, and radioresistance. These tumour-related challenges and possible ways to overcome them are covered in this book, authored by three medical physicists and a clinical oncologist who explain how different radiobiological findings have led to the development of various treatment techniques for head and neck cancer. Novel treatment techniques as supported by current scientific evidence are comprehensively explored, as well as the major challenges that arise in the retreatment of patients who have already undergone a form of radiotherapy for primary head and neck cancer. Features: Uses an interdisciplinary approach, encompassing clinical aspects of radiotherapy, radiation biology, and medical physics Applies content by relating all radiobiological characteristics to their respective clinical implications Explains the radiobiological rationale for all previous and current clinical trials for head and neck cancer

PHYSICS AND RADIOBIOLOGY OF NUCLEAR MEDICINE

Springer Science & Business Media From a distinguished author comes this new edition for technologists, practitioners, residents, and students in radiology and

nuclear medicine. Encompassing major topics in nuclear medicine from the basic physics of radioactive decay to instrumentation and radiobiology, it is an ideal review for Board and Registry examinations. The material is well organized and written with clarity. The book is supplemented with tables and illustrations throughout. It provides a quick reference book that is concise but comprehensive, and offers a complete discussion of topics for the nuclear medicine and radiology physician in training.

BASIC CLINICAL RADIOBIOLOGY

CRC Press This is a basic teaching book for radiation oncologists, radiation physicists, and radiobiologists, setting out concisely the biological basis of radiation therapy. Early chapters deal with essential areas of science, including cell proliferation in tumours and normal tissues, principles of radiation cell killing, theoretical and modelling approaches and molecular aspects of radiobiology. Subsequent chapters deal with the applications of radiobiology to clinical radiotherapy. The principles of fractionation are described in detail, leading to the rationale of current approaches to the improvement of radiotherapy schedules. Also discussed are efforts to beat hypoxia in tumours, brachytherapy, the principles and use of particle beams, the combination of radiotherapy and chemotherapy, hyperthermia, targeted radiotherapy, and current efforts to individualize treatment with radiation therapy. This second edition uses the same clear and concise style as the first, maintaining a high ratio of charts to text, for the benefit of those who have a visual memory. The text has been fully updated and expanded to include recent advances in molecular growth which will be of particular importance to trainees and professionals alike. The charts of this second edition have been substantially revised and each chapter concludes with a series of Key Points. There are frequent cross-references between chapters and a glossary of scientific terms is provided.

RADIATION ONCOLOGY PHYSICS

A HANDBOOK FOR TEACHERS AND STUDENTS

IAEA This publication is aimed at students and teachers involved in teaching programmes in field of medical radiation physics, and it covers the basic medical physics knowledge required in the form of a syllabus for modern radiation oncology. The information will be useful to those preparing for professional certification exams in radiation oncology, medical physics, dosimetry or radiotherapy technology.

RELATIVE RADIATION SENSITIVITIES OF HUMAN ORGAN SYSTEMS

Advances in Radiation Biology, Volume 14: Relative Radiation Sensitivities of Human Organ Systems, Part II focuses on radiation sensitivities of particular human organ systems. The sensitivities are then assessed based on the severity and the rapidity in which the effects of radiation manifest. The opening chapter surveys the clinical and experimental data on approaches toward the prevention of bladder complications in clinical radiotherapy. A discussion on HeLa cells, which are of special importance in human cervical cancer therapy, is then presented. In

presenting this topic, this book emph ...

SELMAN'S THE FUNDAMENTALS OF IMAGING PHYSICS AND RADIOBIOLOGY

Charles C Thomas Publisher This tenth edition of Selman’s The Fundamentals of Imaging Physics and Radiobiology is the continuation of a seminal work in radiation physics and radiation biology first published by Joseph Selman, MD, in 1954 by Charles C Thomas, Publisher, Ltd., Springfield, IL. Many significant changes have been made in this tenth edition. Color photographs and new illustrations have been provided for several existing chapters and for the new chapters in this book. Revisions and updates have been completed for Chapters 1 through 28, whereas Chapters 29 to 33 are all new. The overall style of Doctor Selman is still present, but, with any revision, the style of the present author is also present. In essence, the author’s raison d’être in revising this book was to better reflect current radiology practice and to honor the work of Doctor Selman. Topics discussed in this textbook deal with the physics of x-radiation, the biological interaction of radiation with matter, and all aspects of imaging equipment and technology commonly found in the modern radiology department. The chapter on computed tomography (CT) has been heavily revised and updated. Protective measures regarding radiation safety and radiation hazards for workers and patients are thoroughly discussed and new chapters on dual energy x-ray absorptiometry (DXA), magnetic resonance imaging (MRI), ultrasound (US), fusion and molecular imaging have been added. This book will be very helpful to students about to take the ARRT (R) registry examination, but it is not a registry review book per se. This book also serves as a good overview of radiologic imaging physics for radiographers and other medical professionals.

RADIOBIOLOGY FOR THE RADIOLOGIST

Lippincott Williams & Wilkins In print since 1972, this seventh edition of Radiobiology for the Radiologist is the most extensively revised to date. It consists of two sections, one for those studying or practicing diagnostic radiolo, nuclear medicine and radiation oncology; the other for those engaged in the study or clinical practice of radiation oncology--a new chapter, on radiologic terrorism, is specifically for those in the radiation sciences who would manage exposed individuals in the event of a terrorist event. The 17 chapters in Section I represent a general introduction to radiation biology and a complete, self-contained course especially for residents in diagnostic radiology and nuclear medicine that follows the Syllabus in Radiation Biology of the RSNA. The 11 chapters in Section II address more in-depth topics in radiation oncology, such as cancer biology, retreatment after radiotherapy, chemotherapeutic agents and hyperthermia. Now in full color, this lavishly illustrated new edition is replete with tables and figures that underscore essential concepts. Each chapter concludes with a "summary of pertinent conclusions" to facilitate quick review and help readers retain important information.

BASIC SCIENCES OF NUCLEAR MEDICINE

Springer Nature This book provides comprehensive and detailed information on the

scientific bases of nuclear medicine, addressing a wide variety of topics and explaining the concepts that underlie many of the investigations and procedures performed in the field. The book is divided into six sections that cover the physics and chemistry of nuclear medicine besides associated quality assurance/quality control procedures; dosimetry and radiation biology; SPECT and PET imaging instrumentation plus CT imaging technology in hybrid modalities; data analysis including image processing, reconstruction, radiomics, image degrading correction techniques, along with image quantitation and kinetic modeling. Within these sections, particular attention is paid to recent developments and the advances in knowledge that have taken place since release of the first edition in 2011. Several entirely new chapters have been included and the remaining chapters, thoroughly updated. Innovations in the ever-expanding field of nuclear medicine are predominantly due to integration of the basic sciences with complex technological advances. This excellently illustrated book on the subject will be of interest to not only nuclear medicine physicists and physicians but also clinical scientists, radiologists, radiopharmacists, medical students and technologists.

UNDERSTANDING RADIATION BIOLOGY

FROM DNA DAMAGE TO CANCER AND RADIATION RISK

CRC Press This book provides a qualitative and quantitative exploration of the action of radiation on living matter which leads to a complete and coherent interpretation of radiation biology. It takes readers from radiation-induced molecular damage in the nucleus of the cell and links this damage to cellular effects such as cell killing, chromosome aberrations and mutations before exploring organ damage, organism lethality and cancer induction. It also deals with radiological protection concepts and the difficulties of predicting the dose–effect relationship for low-dose and dose rate radiation risk. The book ends with separate chapters dealing with the effects of UV light exposure and risk classification of chemical mutagens, both of which are derived by logical extensions of the radiation model. This book will provide the basic foundations of radiation biology for undergraduate and graduate students in medical physics, biomedical engineering, radiological protection, medicine, radiology and radiography. Features Presents a comprehensive insight into radiation action on living matter Contains important implications for radiological protection and regulations Provides analytical methods for applications in radiotherapy

CARBON-ION RADIOTHERAPY

PRINCIPLES, PRACTICES, AND TREATMENT PLANNING

Springer Science & Business Media This book serves as a practical guide for the use of carbon ions in cancer radiotherapy. On the basis of clinical experience with more than 7,000 patients with various types of tumors treated over a period of nearly 20 years at the National Institute of Radiological Sciences, step-by-step procedures and technological development of this modality are highlighted. The book is divided into two sections, the first covering the underlying principles of physics and biology, and the second section is a systematic review by tumor site, concentrating on the role of

therapeutic techniques and the pitfalls in treatment planning. Readers will learn of the superior outcomes obtained with carbon-ion therapy for various types of tumors in terms of local control and toxicities. It is essential to understand that the carbon-ion beam is like a two-edged sword: unless it is used properly, it can increase the risk of severe injury to critical organs. In early series of dose-escalation studies, some patients experienced serious adverse effects such as skin ulcers, pneumonitis, intestinal ulcers, and bone necrosis, for which salvage surgery or hospitalization was required. To preclude such detrimental results, the adequacy of therapeutic techniques and dose fractionations was carefully examined in each case. In this way, significant improvements in treatment results have been achieved and major toxicities are no longer observed. With that knowledge, experts in relevant fields expand upon techniques for treatment delivery at each anatomical site, covering indications and optimal treatment planning. With its practical focus, this book will benefit radiation oncologists, medical physicists, medical dosimetrists, radiation therapists, and senior nurses whose work involves radiation therapy, as well as medical oncologists and others who are interested in radiation therapy.

RADIOBIOLOGY FOR THE RADIOLOGIST

Considered the "gold standard" in the field for over 45 years, Radiobiology for the Radiologist combines traditional and molecular radiation biology principles and appeals to students, residents, and veteran clinical practitioners. This edition continues the two-part format of previous editions and features brand-new chapters, thoroughly updated content, and hundreds of figures that provide a visual context to the information in each chapter. Organized into two sections. Part1 is sufficient for students of Radiology and Nuclear Medicine and follows the syllabus published by RSNA. Students in Radiation Oncology need the general information contained in Part 1, but also need the more specialized information contained in Part 2. New chapters introduce new therapies on medical countermeasures to radiation exposure and new molecular techniques in radiology. Mirrors the format of the Syllabus in Radiation Biology prepared by the Radiological Society of North America (RSNA). Written for residents, researchers, and graduate students in radiology, nuclear medicine, radiation oncology, and medical physics. Generally considered the most comprehensive textbook on cellular and molecular radiobiology.

RADIOTHERAPY OF LIVER CANCER

Springer Nature This book provides up-to-date information on all aspects of radiotherapy for liver cancer, from the basic science to clinical practice. While demand for radiotherapy of liver cancer has been increasing, the guidance available to clinicians has remained limited. Radiotherapy of Liver Cancer aims to address this deficit on the basis of the best available evidence. The first two sections explain the relevant basic science and present detailed information on the available technologies and techniques, including the most recent advances. The radiotherapy strategies appropriate in different patient groups are then fully described, covering the use of ablative, adjuvant, neoadjuvant, and definitive radiotherapy, radiotherapy as a bridge to liver transplantation, and palliative radiotherapy. The final section

addresses a range of specific issues of concern to the clinician. Radiotherapy of Liver Cancer will be an ideal reference for clinical radiation oncologists, radiation oncology residents, oncologists, and hepatologists.

RADIOTHERAPY FOR NON-MALIGNANT DISORDERS

Springer Science & Business Media This volume discusses the background and various clinical applications of radiation therapy in the treatment of non-malignant diseases. It documents the radiobiological and physical principles of treatment and the rationale underlying the use of radiotherapy for various disorders of the CNS, head and neck, eye, skin and soft tissues, bone and joints, and vascular system. In so doing, it draws attention to and elucidates the scope for application of radiotherapy beyond the treatment of malignancies. Both the risks and the benefits of such treatment are fully considered, the former ranging from minor clinical problems to life-threatening diseases.

MEDICAL RADIATION BIOLOGY

BASIC AND CLINICAL PHARMACOLOGY, 11TH EDITION

McGraw Hill Professional The most trusted and up-to-date pharmacology text in medicine -- completely redesigned to make the learning process even more interesting and efficient 5 Star Doody's Review! "This is the most widely used textbook for teaching pharmacology to health professionals. This 11th edition is far superior to any previous editions....The authors' goals are to provide a complete, authoritative, current, and readable textbook of pharmacology for students in health sciences. Testimony to their success is the widespread use of this work as required textbook for pharmacology courses around the world. This book is used extensively by thousands of medical, pharmacy, podiatry, nursing, and other health professions students to study pharmacology. Likewise, it remains a valuable resource for residents and practicing physicians....I continue to use this book as a required resource for all courses that I teach to medical, nursing, and allied health students. It is authoritative, readable, and supported by numerous learning tools."--Doody's Review Service Organized to reflect the syllabi in Pharmacology courses, Basic & Clinical Pharmacology covers all the important concepts students need to know about the science of pharmacology and its application to clinical practice. It is acknowledged worldwide as the field’s most current, authoritative, and comprehensive textbook. To be as clinically relevant as possible, the book features a strong focus on the choice and use of drugs in patients and the monitoring of their effects. Coverage that spans every important aspect of medical pharmacology: Basic Principles Autonomic Drugs Cardiovascular-Renal Drugs Drugs with Important Actions on Smooth Muscle Drugs that Act in the Central Nervous System Drugs Used to Treat Diseases of the Blood, Inflammation, and Gout Endocrine Drugs Chemotherapeutic Drugs Toxicology NEW to this edition: Full-color presentation, including 300+ illustrations Case studies introduce clinical problems in many chapters Drug summary tables for key information in comparative context Descriptions of important newly released drugs, including new

immunopharmacologic agents Expanded coverage of general concepts relating to newly discovered receptors, receptor mechanisms, and drug transporters

HANDBOOK OF RADIOBIOLOGY

JP Medical Ltd Complete guide to radiobiology for postgraduate students. Covers beneficial damage to cancer cells and adverse effects on normal cells. Logical, easy to understand format.

PRACTICAL RADIOTHERAPY PLANNING FOURTH EDITION

CRC Press 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 raditation 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.

CLINICAL RADIATION ONCOLOGY

INDICATIONS, TECHNIQUES, AND RESULTS

John Wiley & Sons This fully updated and enhanced third edition of the famous radiation oncology title, Clinical Radiation Oncology, previously edited by the legendary Dr. Chiu-Chen Wang, continues to offer a highly practical, application-based review of the biological basis of radiation oncology and the clinical efficacy of radiation therapy. The new edition provides concise background on all key topics along with immediately applicable treatment algorithms, and addresses the latest developments in the field, including intensity modulated radiation therapy (IMRT), image guided radiation therapy, and palliative radiotherapy.

RADIOPATHOLOGY OF ORGANS AND TISSUES

Springer Science & Business Media The biologic effects of radiation on normal tissues and tumors represent a complex area for investigation. These effects are of far-reaching consequence to the diagnostic radiologist and the radiation oncologist having a significant impact not only in concepts relative to radiation protection but also in concepts relative to tumor biology and its response to radiation injury. The volume edited by SCHERER, STREFFER, and TROTT represents an extension of basic

radiation biology data into the effects of radiation in producing pathology in organs and tissues. The data presented by the multiple authors involved in this text cover essentially all tissues in the body with specific definition of radiopathology changes and their impact on clinical care of the patient. This volume represents an important and significant contribution toward a better understanding of these effects and the pathology produced by radiations. L. W. BRADY H.-P. HEILMANN F. HEUCK M. W. DONNER Philadelphia Hamburg Stuttgart Baltimore Preface This book represents an attempt to describe the clinical radiobiology of complications arising in different organs after radiotherapy of cancer patients. Since by their very nature malignant tumors infiltrate the organ in which they have arisen and the neighboring tissues, curative radiotherapy requires the planned irradiation of considerable amounts of healthy but potentially or microscopically involved normal tissues and organs with the full target dose. This may lead to early or late normal tissue radiation injury.

RADIATION THERAPY STUDY GUIDE

A RADIATION THERAPIST'S REVIEW

Springer This book is a comprehensive review and study aid for radiation therapists. Organized in a question-and-answer format, it present clinical features and principles of treatment. Topics include radiation therapy physics, radiobiology, treatment and simulation equipment, principles of patient care, clinical components of cancer care, and cancers of the brain, head and neck region, and respiratory, digestive, urinary, and male and female reproductive systems. It offers over 500 multiple-choice questions with detailed answers and rationales. Radiation Therapy Study Guide is a valuable resource for radiation therapists preparing for certification examinations as well as for practicing therapists in need of a review.

THE PHYSICS OF RADIATION THERAPY

Lippincott Williams & Wilkins Dr. Khan's classic textbook on radiation oncology physics is now in its thoroughly revised and updated Fourth Edition. It provides the entire radiation therapy team—radiation oncologists, medical physicists, dosimetrists, and radiation therapists—with a thorough understanding of the physics and practical clinical applications of advanced radiation therapy technologies, including 3D-CRT, stereotactic radiotherapy, HDR, IMRT, IGRT, and proton beam therapy. These technologies are discussed along with the physical concepts underlying treatment planning, treatment delivery, and dosimetry. This Fourth Edition includes brand-new chapters on image-guided radiation therapy (IGRT) and proton beam therapy. Other chapters have been revised to incorporate the most recent developments in the field. This edition also features more than 100 full-color illustrations throughout. A companion Website will offer the fully searchable text and an image bank.

BASIC CLINICAL RADIOBIOLOGY, 3ED

CRC Press This concise, but comprehensive textbook sets out all the essentials of the science and clinical application of radiobiology for those seeking accreditation in

radiation oncology. The fully updated 3rd edition continues to discuss the basis of radiation therapy and presents the principles and significant scientific developments that underlie current attempts to improve the radiotherapeutic managemnet of all cancers. New topics in the 3rd edition include chapters on volume effects in normal tissues and the L-Q approach in clinical practice, with major revisions to sections on cell proliferation, radiation cytogenetics, radiotherapy-related morbidity, hyperfractionation and individualisation of radiotherapy. The book continues to provide invaluable advice for trainee and practising radiation oncologists from a team of internationally respected contributors and draws on the considerable experience of the Editor, gained during his time as Course Director of the annual ESTRO course in Basic Clinical Radiobiology.

ADVERSE REPRODUCTIVE OUTCOMES IN FAMILIES OF ATOMIC VETERANS

THE FEASIBILITY OF EPIDEMIOLOGIC STUDIES

National Academies Press Over the past several decades, public concern over exposure to ionizing radiation has increased. This concern has manifested itself in different ways depending on the perception of risk to different individuals and different groups and the circumstances of their exposure. One such group are those U.S. servicemen (the "Atomic Veterans" who participated in the atmospheric testing of nuclear weapons at the Nevada Test Site or in the Pacific Proving Grounds, who served with occupation forces in or near Hiroshima and Nagasaki, or who were prisoners of war in or near those cities at the time of, or shortly after, the atomic bombings. This book addresses the feasibility of conducting an epidemiologic study to determine if there is an increased risk of adverse reproductive outcomes in the spouses, children, and grandchildren of the Atomic Veterans.

STEREOTACTIC BODY RADIATION THERAPY

PRINCIPLES AND PRACTICES

Springer This book serves as a practical guide for the use of stereotactic body radiation therapy in clinics. On the basis of more than 10 years of clinical experience with lung cancer, liver cancer and other cancers, a remarkable volume of knowledge has been accumulated. At the same time, great progress in techniques has been achieved. Various new fixing apparatuses, new respiratory regulation techniques, new dose fractionation schedules and new image-guided radiation therapy machines have been developed. This book reviews the history of those developments and reports on various types of toxicities. Review of recent clinical studies is also included. The authors were key members of the JCOG 0403 clinical trials on stereotactic body radiation therapy (SBRT) for both inoperable and operableT1N0M0 primary lung cancer. Readers will learn of the superior outcomes obtained with SBRT for lung cancer and other cancers in terms of local control and toxicities. With its practical focus, this book will benefit radiation oncologists, medical physicists, medical dosimetrists, radiation therapists and senior nurses as well as medical oncologists and surgical oncologists who are interested in radiotherapy.

ION BEAM THERAPY

FUNDAMENTALS, TECHNOLOGY, CLINICAL APPLICATIONS

Springer Science & Business Media The book provides a detailed, up-to-date account of the basics, the technology, and the clinical use of ion beams for radiation therapy. Theoretical background, technical components, and patient treatment schemes are delineated by the leading experts that helped to develop this field from a research niche to its current highly sophisticated and powerful clinical treatment level used to the benefit of cancer patients worldwide. Rather than being a side-by-side collection of articles, this book consists of related chapters. It is a common achievement by 76 experts from around the world. Their expertise reflects the diversity of the field with radiation therapy, medical and accelerator physics, radiobiology, computer science, engineering, and health economics. The book addresses a similarly broad audience ranging from professionals that need to know more about this novel treatment modality or consider to enter the field of ion beam therapy as a researcher. However, it is also written for the interested public and for patients who might want to learn about this treatment option.

MILITARY RADIOBIOLOGY

Elsevier Military Radiobiology provides an understanding of the sources and consequences of radiation exposure. Military personnel must develop a working knowledge of postexposure effects in order to determine points of intervention. The medical problems confronting military radiobiology include target damage, which causes decrements in normal performance, physiological injury, and impairments of the immunological-hematological system that lead to life-threatening infectious complications. The book begins by describing the properties of nuclear weapons, including the mechanisms by which nuclear energy is stored within the nucleus, its release, and its conversion to those forces associated with nuclear weapons. This is followed by discussions of the sources, patterns, radiological effects, and management of nuclear fallout; the biological effects of exposure to ionizing radiation released by nuclear weapons; and effects of radiation on the immune system, gastrointestinal physiology, and cardiovascular function. Subsequent chapters cover the diagnosis, triage, and treatment of radiation-associated injuries; internal contamination with radionuclides; radioprotective drugs; psychological reactions to nuclear confrontation; and the response to a nuclear weapon accident.

RADIOBIOLOGY SELF-ASSESSMENT GUIDE

Springer Publishing Company Radiobiology Self-Assessment Guide--a companion to the Radiation Oncology Self-Assessment Guide and Physics in Radiation Oncology Self-Assessment Guide--is a comprehensive review for practitioners of radiation oncology looking to enhance their knowledge of radiobiology. It covers in depth the principles of radiobiology as applied to radiation oncology along with their clinical applications. To foster retention of key concepts and data, the resource utilizes a user-friendly "flash card" question and answer format with over 700 questions. The questions are supported by detailed answers and rationales along with reference

citations for source information. The guide is comprised of 29 chapters and cover topics commonly found on the radiation and cancer biology portion of the radiation oncology board examination. Aspects of basic radiobiology covered include fundamentals such as cell cycle, cell survival curves and interactions of radiation with matter, and acute and long-term sequelae of radiation. Modern concepts such as immunotherapy, radiogenomics, and normal and cancer stem cells are also included. Focused and authoritative, this must-have review provides the expertise of faculty from the Department of Radiation Oncology at the Cleveland Clinic Taussig Cancer Institute and Lerner Research Institute. Key Features: Provides a comprehensive study guide for the Radiation and Cancer Biology portion to the Radiation Oncology Board Exam Includes more than 700 questions with detailed answers and rationales on flip pages for easy, flash card-like review Includes essential review of cancer biology concepts such as immunotherapy, stem cells, gene therapy, chemotherapy and targeted agents Content provided by a vast array of contributors, including attending radiation oncology physicians, physicists, and radiation oncology residents

BRACHYTHERAPY

APPLICATIONS AND TECHNIQUES

Lippincott Williams & Wilkins Written by the foremost experts in the field, this volume is a comprehensive text and practical reference on contemporary brachytherapy. The book provides detailed, site-specific information on applications and techniques of brachytherapy in the head and neck, central nervous system, breast, thorax, gastrointestinal tract, and genitourinary tract, as well as on gynecologic brachytherapy, low dose rate and high dose rate sarcoma brachytherapy, vascular brachytherapy, and pediatric applications. The book thoroughly describes and compares the four major techniques used in brachytherapy—intracavity, interstitial, surface-dose or mold therapy, and transluminal. Chapters detail particular techniques that are appropriate in specific clinical situations.

NEW TECHNOLOGIES IN RADIATION ONCOLOGY

Springer Science & Business Media - Summarizes the state of the art in the most relevant areas of medical physics and engineering applied to radiation oncology - Covers all relevant areas of the subject in detail, including 3D imaging and image processing, 3D treatment planning, modern treatment techniques, patient positioning, and aspects of verification and quality assurance - Conveys information in a readily understandable way that will appeal to professionals and students with a medical background as well as to newcomers to radiation oncology from the field of physics

MODERN DERMATOLOGIC RADIATION THERAPY

Springer Science & Business Media Radiation therapy of cutaneous cancers and other dermatologic disorders is not covered adequately in many current textbooks of

dermatology and radiation oncology. This book is intended to fill that gap. Both text and illustrations are oriented toward the practical aspects of radiation therapy. The beginner will find a concise introduction to physical and biological principles, selec tion of radiation factors, dose definitions, indications for treatment, and radiation seque lae. The experienced dermatologist and radiation oncologist will find a detailed discussion of specific indications for various radiation techniques in different body regions. A special effort was made to add pertinent references to the world literature for those who wish to pursue particular topics still further. We have tried to include all major American and European publications of the last 20 years in our bibliography of more than 500 refer ences, and we also have attempted to review the most important scientific papers on prin ciples and practice of ionizing radiation therapy in a constructive way. We are grateful to Professor Gorson, Dr. Breneman, and Professor Lindel6f, who generously contributed chapters in their areas of expertise despite their many other com mitments.

KHAN'S THE PHYSICS OF RADIATION THERAPY

Lippincott Williams & Wilkins Preceded by The physics of radiation therapy / Faiz M. Khan. 4th ed. c2010.

RADIATION ONCOLOGY

A MCQ AND CASE STUDY-BASED REVIEW

Springer Science & Business Media 'Radiation Oncology: MCQs for Exams' (ROME) will cover the essential aspects of radiation physics, radiobiology, and clinical radiation oncology designed to meet the needs of a large scale of examinees. Topics of this new book will be in the order of our previous "Basic Radiation Oncology" (Springer, 2010) with additional two new chapters (Pediatric tumors and Rare tumors-Benign Diseases) making a total of 15 chapters and instead of old style question and answer format,current MCQ examination pattern helpful for both oral exams and written exams is used in this comprehensive bedside recall book complementing the "Basic Radiation Oncology"1st Edition.