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FEATURE: BOOK REVIEW

Fundamentals of Radiation Oncology Physical, Biological, And Clinical Aspects

Fundamentals of Radiation Oncology Physical, Biological, And Clinical Aspects, 3rd Edition, Author: Hasan Murshed, M.D., M.S,; Publisher: Academic Press, Year of Publication: 2019; 746 pages; ISBN: 9780128141281; Price: $144

Radiation plays an integral role in the management of most of the cancers. And, to ensure its optimum use in the era of technical advent, it is necessary to understand the basic principle behind the role of radiation, mechanism of action, delivery, and its advantages and disadvantages.

The present textbook is the updated version of its previous edition Clinical Fundamentals for Radiation Oncologists published in 2011. Since the last edition, there have been many advances in the field of radiation oncology. And, with the implementation of AJCC 8th staging and new modalities for diagnosis and treatment, the treatment protocols have changed in recent years.

This textbook will serve as a source of quick and updated review to the residents for their examinations and to the radiation oncologists in their workplace. This book will give current and concise information regarding the latest data available for the common cancers.

The chapters in Part I cover the basics of radiation oncology in four parts. The first part gives comprehensive knowledge starting from the evolvement of radiation at the atomic level to its use in different modalities, i.e., brachytherapy and teletherapy. The second part gives concise information about the role of radiation safety. The rest two parts are dedicated to radiobiology and molecular cancer biology. With the recent advancements in the field of targeted therapies, the chapters define the rationale of their use.

The chapters in Part II are additional with respect to the previous edition. They briefly yet precisely cover the various techniques for radiotherapy. They give comprehensive details about brachytherapy and conformal radiation including intensity-modulated radiotherapy, image-guided radiation therapy, stereotactic body radiotherapy, and proton therapy. The author has also discussed the role of combining radiation with other modalities such as surgery and chemotherapy in the management of various cancers.

Part III of this book has summarized various cancers along with recent guidelines for their management. It emphasizes the use of the latest techniques such as image guidance and stereotaxy for contouring, planning, and radiation in various cancers. At last, Part IV includes palliative care and management of metastatic disease along with radiation treatment toxicity.

It may appear that being a handbook, it might not be covering the topics as a whole, but to a surprise to us, it manages to briefly cover all the topics. It has used AJCC 8th edition for staging wherever applicable. The simplified way of describing stage-wise management along with the latest and updated references at the end of each chapter is the main highlight. It will help the residents and practitioners as a quick guide for reference. The landmark trials for each site are explained in a simplified way and are up to date. However, the author would have used more tables and flowcharts for summarizing the management part.

The pictures of Digitally Reconstituted Radiographs (DRRs), contouring, and planning are quite self-illustrating, which will help not only residents but also the physicists and technicians. The references are well researched and are up to date. This book comes as a handy reference at all the stages of radiation planning. The printing and publication have maintained the standard as the previous edition.

In the end, we commend the efforts put forth by the author and the contributors. We strongly recommend this book as a quick reference to gain an understanding of a specific disease site. This book may be used by the residents and the practitioners of radiation oncology at all levels of radiation planning, starting from simulation to the patient setup.

However, this book may or may not be in line with the protocols followed in individual departments because of differences in available resources, but it may still benefit the students and radiation oncologists by guiding with the basics and updated disease-specific data. As quoted by the author in the preface, this book indeed helps to secure the best knowledge, excellent skills, and the compassion to “cure sometimes, treat often, and comfort always.”

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