
Radiation Oncology for Pediatric CNS Tumors

Anita Mahajan • Arnold Paulino
Editors

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 Springer

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Preface

In the United States, brain tumors account for 20% of new cancer cases and 30% of cancer deaths in children. Currently, 70–75% of central nervous system (CNS) patients younger than 19 years will survive. Radiation therapy has been and will continue to be a critical component of the multidisciplinary approach required in the care of children with CNS tumors. Gone are the days when radiation therapy or “radiodiagnosis” was used for germinoma or similarly simple “hockey stick” fields to treat the craniospinal axis. Continued advances in technology and understanding of diagnosis, imaging, and radiotherapy influence management of patients. This book integrates these advances specifically in the radiation therapy management of pediatric neuro-oncology.

The book is organized into four segments: (1) basic principles, (2) disease-specific sections, (3) radiotherapy practice, and (4) radiotherapy toxicity and management. The basic principles cover the epidemiology of brain tumors as well as the various disciplines aside from radiotherapy which are important in the management of CNS tumors. Individual disease-specific sites cover embryonal, glial, germ cell, and other tumor types and are discussed next. Treatment techniques used in radiotherapy practice for children including the use of anesthesia, craniospinal irradiation, proton therapy, and hypofractionated radiotherapy are discussed. Finally, various toxicities that relate to vision, hearing, endocrine, and cognitive function are discussed in radiotherapy toxicity and management.

We have been fortunate to have contributing authors who are experts in the field of pediatric radiation oncology. While many authors are from the United States, there is a representation from countries such as Germany, France, United Kingdom, Ireland, Japan, South Korea, Canada, and Brazil.

We hope this book will provide information and guidance to the pediatric oncology community as a whole and serve as a resource and educational tool to the radiation oncology community. We hope that this book provides a solid foundation as we continue to improve our understanding of pediatric CNS tumors.

Rochester, USA
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