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Nota di contenuto	Preface -- Foreword -- Section 1. Fundamentals -- Chapter 1. Introduction: The Case for Endoradiotherapy -- Chapter 2. The History of Endoradiotherapy -- Chapter 3. The Nuclear Chemistry of Therapeutic Radionuclides -- Chapter 4. The Production of Therapeutic Radionuclides -- Chapter 5. The Radiobiology of Alpha Particles, Beta Particles, and Auger Electrons -- Chapter 6. The Radiopharmaceutical

Chemistry of Metallic Radionuclides -- Chapter 7. The Radiopharmaceutical Chemistry of Non-Metallic Radionuclides -- Chapter 8. Dosimetry in Endoradiotherapy -- Section 2. Deeper Dives -- Chapter 9. Antibodies as Vectors for Endoradiotherapy -- Chapter 10. Case Study #1: ^{225}Ac -Labeled IgG -- Chapter 11. Case Study #2: ^{131}I -3F8 -- Chapter 12. Case Study #3: Antibody Fragments in Endoradiotherapy -- Chapter 13. Peptides as Vectors for Endoradiotherapy -- Chapter 14. Case Study #4: LUTATHERA -- Chapter 15. Case Study #5: CXCR4 -- Chapter 16. Case Study #6: JR11 -- Chapter 17. Small Molecules as Vectors for Endoradiotherapy -- Chapter 18. Case Study #7: PSMA-617 -- Chapter 19. Case Study #8: $^{223}\text{RaCl}_3$ -- Section 3. Special Topics -- Chapter 20. Auger Emitters in Endoradiotherapy -- Chapter 21. In Vivo Pretargeting -- Chapter 22. Theranostic Imaging and Endoradiotherapy -- Chapter 23. The Next Generation of Therapeutic Radionuclides -- Chapter 24. Artificial Intelligence and Machine Learning -- Chapter 25. The Regulatory Review of Radiotherapeutics: USA -- Chapter 26. The Regulatory Review of Radiotherapeutics: Europe -- Chapter 27. The Regulatory Review of Radiotherapeutics: Japan -- Chapter 28. Radiotherapeutics in the Nuclear Pharmacy -- Chapter 29. The Future.

Sommario/riassunto

This book covers foundational topics in the emerging field of radiopharmaceutical therapy. It is divided into three sections: fundamentals, deeper dives, and special topics. In the first section, the authors examine the field from a bird's-eye view, covering topics including the history of radiopharmaceutical therapy, the radiobiology of radiopharmaceutical therapy, and the radiopharmaceutical chemistry of both metallic and non-metallic radionuclides. The second section provides a more in-depth look at specific radiotherapeutics. Chapters include broader discussions of the different platforms for radiopharmaceutical therapy as well as more focused case studies covering individual radiotherapeutics. The third and final section explores a number of areas for further study, including medical physics, artificial intelligence, in vivo pretargeting, theranostic imaging, and the regulatory review process for radiotherapeutics. This book is the first of its kind and is useful for a broad audience of scientists, researchers, physicians, and students across a range of fields, including biochemistry, cancer biology, nuclear medicine, radiology, and radiation oncology.
