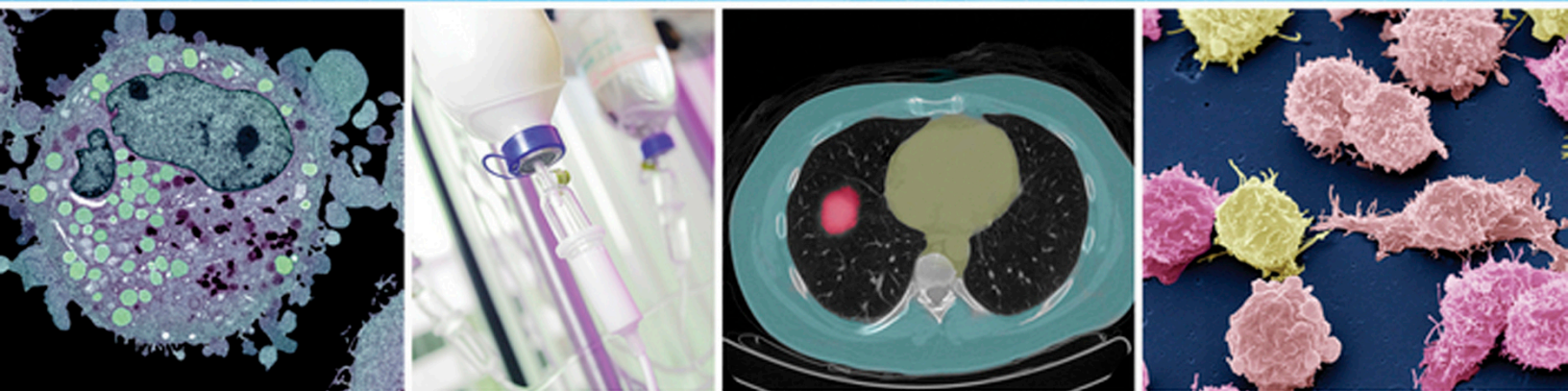


Ninth Edition

HOLLAND-FREI CANCER MEDICINE 9



Edited by

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Holland-Frei Cancer Medicine

Ninth Edition

Dedication

From the preparation for the first edition throughout the next eight editions, Emil Frei III, Tom to us and to his legion of friends, was an Editor extraordinaire. His deep knowledge of cancer, his extensive professional and personal contacts, and his vision gave strength to the book and its production. He was a towering figure in world oncology, and through his participation in it and in this treatise promoted its creation as a medical discipline. He was a consummate clinician who trained many of the major oncologists of the United States during his leadership at the National Cancer Institute, MD Anderson Cancer Center and the Dana Farber Cancer Institute of Harvard University. He was a pioneer of translational research. His writings, lectures, and open friendship made him a valued, virtual companion to every working oncologist. His influence will outlive him.

We editors who treasured his fraternity miss him sorely, and dedicate this ninth edition of Cancer Medicine to this great man.

James F. Holland
Robert C. Bast Jr.
Donald W. Kufe
Ralph R. Weichselbaum
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Holland-Frei Cancer Medicine

Ninth Edition

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Published in collaboration with

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for Cancer Research

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Published by John Wiley & Sons, Inc., Hoboken, New Jersey

Published simultaneously in Canada

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Library of Congress Cataloging-in-Publication Data

Names: Bast, Robert C., Jr. (Robert Clinton), 1943- editor.

Title: Holland-Frei Cancer Medicine / editors, Robert C. Bast, Jr, Carlo M. Croce, William Hait, Waun Ki Hong, Donald W. Kufe, Martine Piccart-Gebhart, Raphael E. Pollock, Ralph R. Weichselbaum, Hongyang Wang, James F. Holland.

Other titles: Cancer Medicine

Description: 9th edition. | Hoboken, New Jersey : John Wiley & Sons, Inc., 2016. | Preceded by Holland-Frei Cancer Medicine 8, 2010. | Includes bibliographical references and index.

Identifiers: LCCN 2016017204 (print) | LCCN 2016018267 (ebook) | ISBN 9781118934692 (hardback) | ISBN 9781119000846 (pdf) | ISBN 9781119000839 (epub)

Subjects: | MESH: Neoplasms

Classification: LCC RC261 (print) | LCC RC261 (ebook) | NLM QZ 200 | DDC 616.99/4--dc23

LC record available at <https://lcn.loc.gov/2016017204>

Cover images:

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Preface

Our understanding of cancer at the molecular, cellular, and clinical levels continues to expand. Translation of molecular diagnostics and therapeutics to the clinic has begun to realize the promise of precision medicine with the development and approval of dozens of new targeted drugs, antibodies, and predictive biomarkers. Assimilating this knowledge poses an acute challenge for students, residents, fellows, and established practitioners of oncology. Laboratory-based investigators seeking to translate their discoveries to human application require an accurate overview of clinical oncology, informed by cancer biology. As new therapies and diagnostics may now be applicable across multiple disease sites, it is essential that Pharma and Biotech understand the new advances and the unmet needs across the entire field of oncology.

This 9th Edition of *Cancer Medicine* provides a comprehensive synthesis of clinical oncology and the principles underlying approaches to detection, diagnosis, and cancer management. Biological hallmarks of cancer and the clinical manifestations of neoplastic diseases are described. Oncologists must now be familiar with pathways and processes that explain the origin and pathogenesis of neoplasms. Transformational technologies are discussed in depth to provide oncologists with an understanding of technical procedures such as deep sequencing, methods for measuring epigenetic modification of DNA and histones, transcriptional profiling, ncRNAs, specific functions of RNAs, proteomics, and metabolomics. The heterogeneity within and between cancers

and their metastases are described and implications for clinical management are discussed. Quantitative oncology is explained in understandable terms providing an introduction not only to biostatistics and novel trial design, but also to bioinformatics and systems biology.

This work includes concise guidelines for the use of both conventional and novel drugs. As in the past editions, there is an emphasis on multidisciplinary patient care including surgical and radiation oncology, psycho-oncology, and population science. This volume should be of value to oncologists of every discipline. *Cancer Medicine*, 9th Edition, includes electronic web-based access with links to relevant references that will be regularly updated.

The editors have chosen experts who have written authoritatively about the disciplines and diseases covered in their respective chapters. Given the global importance of oncology, editors have now been included from Europe and Asia. As the world of science and medicine chip away the unknowns of the cancer process and its prevention and therapy, we believe the contents of this work will provide a platform for understanding the current state of accomplishment and preparing the reader for a critical evaluation of discoveries still to come.

The Editors
2016

