

CONTENTS

Foreword by <i>Daniel C. Sullivan</i>	v
Preface	vii
Contributors	xi
1 Role of Imaging in Cancer Treatment	1
<i>Anthony F. Shields and P. Price</i>	
2 Preclinical Models of Tumor Growth and Response	13
<i>Patrick McConville, William L. Elliott, Alicia Kreger, Richard Lister, Jonathan B. Moody, Erin Trachet, Frank Urban, and W.R. Leopold</i>	
3 Anatomical Measure of Tumor Growth with Computed Tomography and Magnetic Resonance Imaging	33
<i>Stephen J. Gwyther</i>	
4 Positron Emission Tomography Imaging of Blood Flow and Hypoxia in Tumors	47
<i>Joseph G. Rajendran and David A. Mankoff</i>	
5 Magnetic Resonance Measurement of Tumor Perfusion and Vascularity	73
<i>Jeffrey L. Evelhoch</i>	
6 Computed Tomography Measurements of Perfusion in Cancer Therapy	85
<i>Ken Miles</i>	
7 [¹⁸ F]Fluorodeoxyglucose Positron Emission Tomography Assessment of Response	103
<i>Wolfgang A. Weber</i>	
8 Measurement of Tumor Proliferation with Positron Emission Tomography and Treatment Response	121
<i>Anthony F. Shields</i>	
9 Estrogen-Receptor Imaging and Assessing Response to Hormonal Therapy of Breast Cancer	143
<i>Farrokh Dehdashti and Barry A. Siegel</i>	
10 Quantitative Approaches to Positron Emission Tomography	155
<i>Adriaan A. Lammertsma</i>	
11 Position Emission Tomography Measurement of Drug Kinetics	169
<i>Azeem Saleem and P. Price</i>	

12	Imaging Genes for Viral and Adoptive Therapies	205
	<i>Inna Serganova, Vladimir Ponomarev, Phillipp Mayer-Kuckuk, Ekaterina Doubrovina, Michael Doubrovin, and Ronald G. Blasberg</i>	
13	<i>In Vivo</i> Magnetic Resonance Spectroscopy in Clinical Oncology	241
	<i>Arend Heerschap</i>	
14	Magnetic Resonance Probes for Tumor Imaging	259
	<i>Alexander S.R. Guimaraes and Ralph Weissleder</i>	
15	Fluorescent Imaging of Tumors	281
	<i>Kamiar Moin, Oliver J. McIntyre, Lynn M. Matrisian, and Bonnie F. Sloane</i>	
16	Imaging of Apoptosis	303
	<i>Francis G. Blankenberg and H. William Strauss</i>	
	Index	317