

Preface vi
Contributors vii
List of Universal Abbreviations x

SECTION I

BASIC PRINCIPLES

1 Diagnostic Imaging Methods 2
 William E. Brant

SECTION II

NEURORADIOLOGY

SECTION EDITOR: Erik H. L. Gaensler and Jerome A. Barakos

2 Introduction to Brain Imaging 28
 David J. Seidenwurm and Govind Mukundan

3 Craniofacial Trauma 49
 Robert M. Barr, Alisa D. Gean, and Tuong H. Le

4 Cerebrovascular Disease 75
 Howard A. Rowley

5 Central Nervous System Neoplasms and Tumor-Like Masses 107
 Kelly K. Koeller

6 Central Nervous System Infections 141
 Nathaniel A. Chuang and Walter L. Olsen

7 White Matter and Neurodegenerative Diseases . . . 170
 Jerome A. Barakos and Derk D. Purcell

8 Pediatric Neuroimaging 194
 Camilla Lindan, Erik Gaensler, and Jerome Barakos

9 Head and Neck Imaging 240
 Jerome A. Barakos and Derk D. Purcell

10 Nondegenerative Diseases of the Spine 267
 Erik H. L. Gaensler and Derk D. Purcell

11 Lumbar Spine: Disc Disease and Stenosis 314
 Clyde A. Helms

SECTION III

PULMONARY

SECTION EDITOR: Jeffrey S. Klein

12 Methods of Examination, Normal Anatomy, and Radiographic Findings of Chest Disease 324
 Julio Lemo and Jeffrey S. Klein

13 Mediastinum and Hila 367
 Jeffrey S. Klein

14 Pulmonary Vascular Disease 396
 Curtis E. Green and Jeffrey S. Klein

15 Pulmonary Neoplasms 410
 Jeffrey S. Klein

16 Pulmonary Infection 435
 Jeffrey S. Klein

17 Diffuse Lung Disease 453
 Jeffrey S. Klein and Curtis E. Green

18 Airways Disease 487
 Jeffrey S. Klein

19 Pleura, Chest Wall, Diaphragm, and Miscellaneous Chest Disorders 504
 Jeffrey S. Klein and Jimmy S. Ghostine

SECTION IV

BREAST RADIOLOGY

SECTION EDITOR: Karen K. Lindfors

20 Breast Imaging 536
 Karen K. Lindfors and Huong T. Le-Petross

SECTION V

CARDIAC RADIOLOGY

SECTION EDITOR: David K. Shelton

21 Cardiac Anatomy, Physiology, and Imaging Modalities 568
 David K. Shelton

22 Cardiac Imaging in Acquired Diseases 595
 David K. Shelton and Gary Caputo

SECTION VI

VASCULAR AND INTERVENTIONAL RADIOLOGY

SECTION EDITOR: Michael J. Miller, Jr.

23 Thoracic, Pulmonary Arteries, and Peripheral Vascular Disorders 618
 Michael J. Miller Jr and Tony P. Smith

24 Abdominal Arteries, Venous System, and Nonvascular Intervention 641
 Michael J. Miller Jr and Tony P. Smith

SECTION VII

GASTROINTESTINAL TRACT

SECTION EDITOR: William E. Brant

25 Abdomen and Pelvis 670
 William E. Brant

26 Liver, Biliary Tree, and Gallbladder 692
 William E. Brant

27	Pancreas and Spleen.	720
	William E. Brant	
28	Pharynx and Esophagus.	734
	Sara Moshiri and William E. Brant	
29	Stomach and Duodenum	752
	William E. Brant	
30	Mesenteric Small Bowel.	765
	William E. Brant	
31	Colon and Appendix	780
	William E. Brant and Sarah Erickson	

SECTION VIII

GENITOURINARY TRACT

SECTION EDITOR: William E. Brant

32	Adrenal Glands and Kidneys	796
	William E. Brant	
33	Pelvicalyceal System, Ureters, Bladder, and Urethra	817
	William E. Brant	
34	Genital Tract—CT, MR, and Radiographic Imaging	838
	William E. Brant	

SECTION IX

ULTRASONOGRAPHY

SECTION EDITOR: William E. Brant

35	Abdomen Ultrasound	858
	William E. Brant	
36	Genital Tract and Bladder Ultrasound	886
	William E. Brant	
37	Obstetric Ultrasound	910
	William E. Brant	
38	Chest, Thyroid, Parathyroid, and Neonatal Brain Ultrasound.	936
	William E. Brant	
39	Vascular Ultrasound	954
	William E. Brant and Raymond S. Dougherty	

SECTION X

MUSCULOSKELETAL RADIOLOGY

SECTION EDITOR: Clyde A. Helms

40	Benign Cystic Bone Lesions	980
	Clyde A. Helms	
41	Malignant Bone and Soft Tissue Tumors	1000
	Clyde A. Helms	
42	Skeletal Trauma.	1015
	Clyde A. Helms	
43	Arthritis.	1043
	Clyde A. Helms	
44	Metabolic Bone Disease.	1067
	Clyde A. Helms	

45	Skeletal “Don’t Touch” Lesions.	1078
	Clyde A. Helms	
46	Miscellaneous Bone Lesions.	1090
	Clyde A. Helms	
47	Magnetic Resonance Imaging of the Knee	1098
	Clyde A. Helms	
48	Magnetic Resonance Imaging of the Shoulder	1109
	Clyde A. Helms	
49	Magnetic Resonance Imaging of the Foot and Ankle	1117
	Clyde A. Helms	

SECTION XI

PEDIATRIC RADIOLOGY

SECTION EDITOR: Susan D. John

50	Pediatric Chest.	1128
	Susan D. John and Leonard E. Swischuk	
51	Pediatric Abdomen and Pelvis	1176
	Susan D. John and Leonard E. Swischuk	

SECTION XII

NUCLEAR RADIOLOGY

SECTION EDITOR: David K. Shelton

52	Introduction to Nuclear Medicine	1228
	David K. Shelton	
53	Essential Science of Nuclear Medicine	1233
	Ramsey D. Badawi, Linda A. Kroger, and Jerrold T. Bushberg	
54	Skeletal System Scintigraphy	1250
	David K. Shelton and Amir Kashfi	
55	Pulmonary Scintigraphy.	1263
	David K. Shelton and Meena Kumar	
56	Cardiovascular System Scintigraphy	1280
	David K. Shelton	
57	Endocrine Gland Scintigraphy	1294
	Marc G. Cote	
58	Gastrointestinal, Liver–Spleen, and Hepatobiliary Scintigraphy	1309
	David K. Shelton and Roshanak Rahnamayi	
59	Genitourinary System Scintigraphy	1323
	Howard A. Carpenter and Cameron C. Foster	
60	Scintigraphic Diagnosis of Inflammation and Infection	1339
	Christopher J. Palestro	
61	Molecular Imaging	1353
	Amir Kashfi and David K. Shelton	
62	Central Nervous System Scintigraphy	1373
	David H. Lewis and Jon Umlauf	
63	Positron Emission Tomography	1388
	Cameron C. Foster, Bijan Bijan, and David K. Shelton	