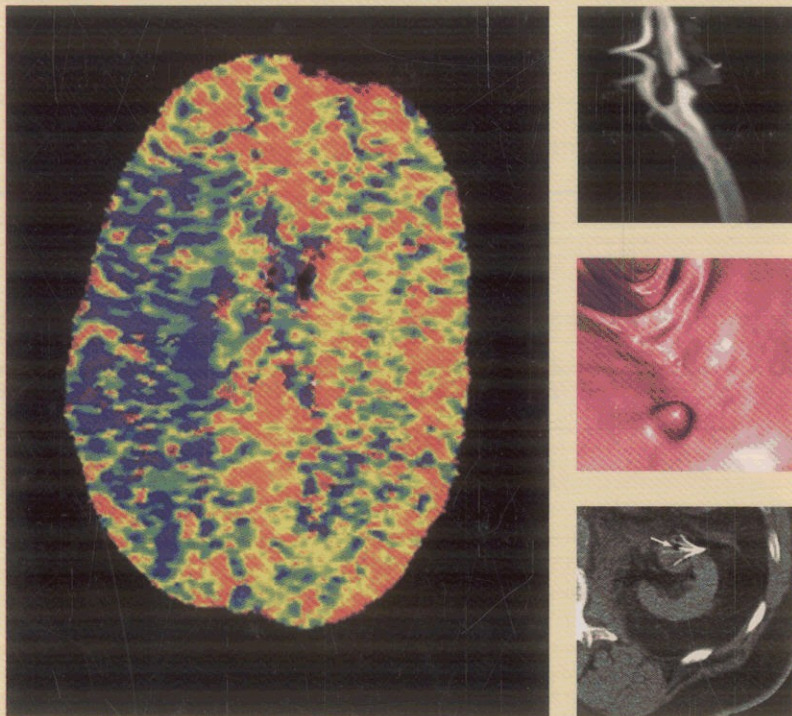


VOLUME 1

# CT AND MRI OF THE WHOLE BODY

F I F T H E D I T I O N



**JOHN R. HAAGA**

VIKRAM S. DOGRA  
MICHAEL FORSTING  
ROBERT C. GILKEŠON  
HYUN KWON HA  
MURALI SUNDARAM

MOSBY  
ELSEVIER

# Contents

## VOLUME ONE

### Part I: Brain and Meninges

Edited by Michael Forsting

- 1 Normal Anatomy** 3  
*Haibo Xu, Haojun Shi, Hanping Wu*
- 2 Intracranial Neoplasms** 49  
*Stephen A. Kieffer, Jeffrey R. Brace*
- 3 Cerebral Infections and Inflammation** 145  
*Chi-Shing Zee, Doaying Geng, John L. Go, Paul E. Kim, Jamshid Ahmadi, Hervey D. Segall*
- 4 Stroke** 187  
*Michael Forsting*
- 5 Cerebral Aneurysms and Cerebrovascular Malformations** 229  
*Theodore C. Larson III*
- 6 Central Nervous System Trauma** 295  
*John J. Wasenko, Leo Hochhauser*
- 7 Neurodegenerative Disorders** 337  
*Andrei I. Holodny, Ajax E. George, Mony J. de Leon, Sassan Karimi, James Golomb*
- 8 Brain Magnetic Resonance Spectroscopy** 361  
*Jay J. Pillai, Lester Kwock, Alena Horská*
- 9 Meningeal Processes** 399  
*Melanie B. Fukui, Carolyn Cidis Meltzer*
- 10 Leukoencephalopathies and Demyelinating Disease** 429  
*Barton Lane*

### Part II: Imaging of the Head and Neck

Edited by Michael Forsting

- 11 Orbit** 471  
*Colin S. Poon, Michael Abrahams, James Abrahams*

- 12 Temporal Bone** 501  
*Hartmut Becker, Andreas Mangold*

- 13 Sinonasal Cavity, Nasopharynx, and Oropharynx** 567  
*Eric Nyberg, Sherif Gamal Nour, Jonathan S. Lewin, Daniel Hsu, Charles F. Lanzieri*

- 14 Cervical Adenopathy and Neck Masses** 639  
*Thomas Vogl, Sotirios Bisdas*

- 15 Larynx** 671  
*Hugh D. Curtin*

- 16 Pediatric Head and Neck Imaging** 693  
*John C. Egelhoff, Bernadette L. Koch*

### Part III: Imaging of the Spine

Edited by Michael Forsting

- 17 Spinal Cord** 733  
*Kristine Blackham, Jeffrey L. Sunshine*

- 18 Degenerative Diseases of the Spine** 755  
*David S. Jacobs*

- 19 Extramedullary Spinal Tumors** 801  
*Birgit Ertl-Wagner, Andrea Baur-Melnyk*

- 20 Infections of the Spine** 827  
*Tobias Engelhorn, Arnd Doerfler*

- 21 Image-Guided Spinal Interventions** 837  
*Ralf-Thorsten Hoffmann, Andrea Baur-Melnyk*

### Part IV: Imaging of the Chest

Edited by Robert C. Gilkeson

- 22 Nonneoplastic Parenchymal Lung Disease** 863  
*Tomás Franquet*

- 23 Primary Pulmonary Neoplasms** 927  
*Jeremy J. Erasmus, H. Page McAdams, Santiago E. Rossi*

<b>24 Mediastinum</b>	969	<b>40 Adrenal Glands</b>	1813
<i>Santiago Martinez, H. Page McAdams, Jeremy J. Erasmus</i>		<i>Timothy J. Welch, Shannon P. Sheedy, Patrick F. Sheedy II</i>	
<b>25 Pleura and Chest Wall</b>	1037	<b>41 Kidney</b>	1863
<i>Najib M. Rahman, Fergus V. Gleeson</i>		<i>Shweta Bhatt, Vikram S. Dogra</i>	
<b>26 Airway</b>	1071	<b>42 Retroperitoneum</b>	1953
<i>Phillip M. Boiselle</i>		<i>Drew A. Torigian, Parvati Ramchandani</i>	
<b>27 Thoracic Aorta</b>	1091	<b>43 Male Pelvis</b>	2041
<i>Robert C. Gilkeson, Scott Kolodny</i>		<i>Henry S. Su, Mukesh G. Harisinghani</i>	
<b>28 Heart and Pericardium</b>	1133	<b>44 Female Pelvis</b>	2075
<i>Lynn S. Broderick</i>		<i>Rosemarie Forstner, Karen Kinkel</i>	
<b>29 Coronary Artery Disease</b>	1171		
<i>Patricia Carrascosa, Carlos Capuñay, Robert C. Gilkeson</i>			

## VOLUME TWO

### Part V: Gastrointestinal Imaging

Edited by Hyun Kwon Ha

<b>30 Gastrointestinal Tract</b>	1213	<b>45 Musculoskeletal Tumors</b>	2133
<i>Hyun Kwon Ha, Seong Ho Park, Seung Soo Lee, Ah Young Kim</i>		<i>Amilcare Gentili, Berna Dirim, Ronald J. Boucher</i>	
<b>31 Biliary Tract and Gallbladder</b>	1373	<b>46 Shoulder</b>	2159
<i>Jae Hoon Lim, Kyoung Won Kim, Dongil Choi</i>		<i>Kenneth Sheah, Miriam A. Bredella</i>	
<b>32 Liver: Normal Anatomy, Imaging Techniques, and Diffuse Diseases</b>	1455	<b>47 Ankle and Foot</b>	2207
<i>Daniel T. Boll, Elmar M. Merkle</i>		<i>Ken L. Schreiber, Richard Bruce</i>	
<b>33 Liver: Focal Hepatic Mass Lesions</b>	1501	<b>48 Knee</b>	2317
<i>Osamu Matsui, Satoshi Kobayashi, Tosifumi Gabata, Kazuhiko Ueda</i>		<i>Romulo Baltazar, Calvin Ma, Steven Shankman, Javier Beltran</i>	
<b>34 Liver Transplantation</b>	1567	<b>49 Hip</b>	2373
<i>Raj M. Paspulati</i>		<i>Mark D. Murphey, Cheryl A. Petersilge</i>	
<b>35 Pancreas</b>	1599		
<i>Nisha Sainani, Onofrio Catalano, Dushyant Sahani</i>			
<b>36 Peritoneum</b>	1675		
<i>John R. Haaga, Perry J. Pickhardt</i>			
<b>37 Mesentery</b>	1731		
<i>Yong Ho Auh, Sophia Kung, George Shih</i>			
<b>38 Spleen</b>	1771		
<i>Dean A. Nakamoto</i>			

### Part VI: Genitourinary Imaging

Edited by Vikram S. Dogra

<b>39 Contrast Nephropathy and Its Prevention</b>	1807
<i>Sameh K. Morcos</i>	

### Part VII: Imaging of the Musculoskeletal System

Edited by Murali Sundaram

<b>45 Musculoskeletal Tumors</b>	2133
<i>Amilcare Gentili, Berna Dirim, Ronald J. Boucher</i>	
<b>46 Shoulder</b>	2159
<i>Kenneth Sheah, Miriam A. Bredella</i>	
<b>47 Ankle and Foot</b>	2207
<i>Ken L. Schreiber, Richard Bruce</i>	
<b>48 Knee</b>	2317
<i>Romulo Baltazar, Calvin Ma, Steven Shankman, Javier Beltran</i>	
<b>49 Hip</b>	2373
<i>Mark D. Murphey, Cheryl A. Petersilge</i>	

### Part VIII: Image-Guided Intervention and Basic Science

Edited by John R. Haaga

<b>50 Image-Guided Interventions: CT Emphasis</b>	2411
<i>John R. Haaga, Timothy L. Haaga, Hanping Wu</i>	
<b>51 Basic CT Physics, Instrumentation, and Parameters for Dose Management</b>	2645
<i>John R. Haaga, Floro Miraldi, Ernest J. Wiesen</i>	
<b>52 MRI Physics, Techniques, and General Clinical Artifacts</b>	2693
<i>Mark Griswold, Vikas Gulani</i>	
<b>53 Introduction to Clinical Positron Emission Tomography</b>	2709
<i>Peter F. Faulhaber, Raymond F. Muzic, Jr.</i>	

Index i