Whole Body Computed Tomography Angiography

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Editors

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Preface

It has been 7 years since the first edition of *Whole Body CT Angiography* was published. During these years, CT angiography (CTA) has experienced great progress, and many new technologies have emerged and were quickly applied to clinical applications. In the constantly updated clinical and scientific research work, we have also accumulated more experience and updated understanding of CTA technology and clinical applications. Many readers also pointed out the limitations and errors in this book in different ways and put forward many very good suggestions for this new edition, which moved us quite a lot. Based on this, we have compiled and published the second edition of this book with strong and good wishes. The second edition adds more content than the first edition, especially more introduction to content that has made more progress in recent years. For example, Chap. 3 describes the CTA radiation dose optimization strategy; a special section is dedicated to the clinical application of CTA. This book describes new developments in CTA, especially a large amount of knowledge updates on coronary CTA, in order to reflect the latest progress in current CTA technology and clinical applications; in the clinical application section, the application of spinal cord and pediatric CTA is added compared to the first edition. Considering that some dual-energy CT technologies have become routine clinical technologies, the original Chap. 19 in the first edition has been deleted and integrated into corresponding chapters in the second edition. While maintaining the emphasis on basic knowledge of the first edition, the second edition uses a larger space to add radiation dose optimization strategies, emphasizes the review of CTA progress in each system, and adds anatomical descriptions of each system and CTA's evaluation of disease prognosis, etc. The value of CTA in these aspects reflects our emphasis on CTA basic knowledge and new developments. The second Chinese edition also attempts to supplement the text content with video explanations, which is a useful exploration.

The completion of this book benefited from the support of colleagues and students in the Department of Radiology at Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University, as well as the cooperation of all contributors. The contributors of this book strictly followed the editor-in-chief's suggestions and revised the manuscript many times, updated and edited pictures, and proofread the text, so that the quality of the manuscript was continuously improved. Technician Changsheng Zhou, deputy chief physician Xiaoqing Cheng, deputy chief physician Yan'e Zhao, attending physician Song Luo, Chunxiang Tang, Qi Li, Zhang Wei and graduate students Guozhong Chen, Fan Zhou, Zhuxiao Lin, and Yunfei Wang assisted the editor in doing a lot of work in text proofreading and picture editing during the preparation of this book. Professor Huadan Xue of Peking Union Medical College Hospital and Dr. Huixue Sheng of Nanjing Children's Hospital provided some valuable pictures for this book. I would like to express my heartfelt thanks!

Thanks to the National Key Research and Development Program, the Jiangsu Province Key Diseases Standardized Diagnosis and Treatment Project, and the National Science and Technology Academic Works Publishing Fund for supporting this book. My heartfelt thanks to Director Aiying Gao of the Military Science Press for always encouraging and spurring us to move forward so that this book can meet readers as soon as possible.

As always, we are eager to contribute a good work, but in view of the limited knowledge of the editors, if there are limitations or errors or omissions in the book, we hope that readers will give us their advice so that the relevant contents can be updated, and errors corrected when the book is reprinted!

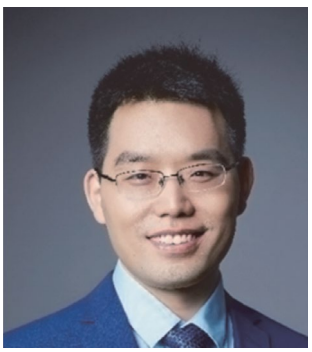
Nanjing, China — Longjiang Zhang
Nanjing, China — Guangming Lu

March 29, 2019

Contents

Editors and Contributors

About the Editors



Longjiang Zhang is director and chief physician of the Department of Radiology at Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University, served as the deputy director of the Youth Committee of the Chinese Society of Radiology, deputy editor-in-chief of the *International Journal of Medical Radiology*, and as an esteemed editorial board member of the *Chinese Journal of Radiology*. His primary research areas are cardiovascular and cerebrovascular imaging as well as metabolic encephalopathy imaging.

He has hosted the National Natural Science Foundation of China Outstanding Youth Fund (2013), key projects (2012, 2018), the National Ministry of Science and Technology Key R&D Plan (2017), Jiangsu Province Key Diseases Standardized Diagnosis and Treatment Project (2015), and Jiangsu Province Key Medical Talents in 2020. Notably, he was honored as one of the New Century Excellent Talents by the Ministry of Education in 2012 and as an outstanding medical key talent of Jiangsu Province during the "Twelfth Five-Year Plan" period for the Science, Education, and Health Project.

Over the past five years, he has authored and coauthored more than 100 SCI papers in esteemed journals such as *Radiology*, *JACC Cardiovascular Imaging*, and *Hum Brain Mapp*. Furthermore, he has served as the chief editor of three monographs, namely *Whole Body CT Angiography*, *CT Angiography Manual*, and *Dual Energy CT Clinical Application Guidelines*.

His exceptional contributions have been recognized through prestigious awards, including the first prize of the Jiangsu Medical Science and Technology Award in 2018, the 2015 Youth Science Award of the Ministry of Education (individual award), the first prize of the Science and Technology Progress Award of the Ministry of Education in 2014, and the second prize of the National Science and Technology Progress Award in 2013, among others. In 2019, he was selected as a national Hundreds and Thousands of Talents Project and was awarded the title of Young and Middle-aged Expert with Outstanding Contributions. Additionally, he received the Scientific Chinese (2015) Person of the Year award and the 15th Jiangsu Province Youth Science and Technology Award, further solidifying his status as an outstanding professional within the field of radiology.

Guangming Lu is Chief Physician of the Department of Radiology at Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University, and boasts a career spanning over 36 years dedicated to medical teaching and research. His main research interests are cardiovascular and cerebrovascular imaging, neuroimaging, and tumor imaging.

Currently, he is holding pivotal roles such as the Director of the Clinical Comprehensive Teaching and Research Office at Medical School of Nanjing University, a Doctoral Supervisor, Director of the Medical Imaging Center of Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University, Chief Scientist of the National 973 Project, and a key member of the national key research and development program "Key Scientific Issues in Transformative Technologies." Furthermore, he serves as the Vice Chairman of the Radiology Branch of the Chinese Medical Association, former Chairman of the China Branch of the International Society for Medical Magnetic Resonance, Standing Member of the Radiologist Branch of the Chinese Medical Doctor Association, Chairman of the Neuroimaging Professional Committee, Chairman of the Imaging Diagnosis Professional Committee of the Bethune Charity Foundation, and President of the Radiology Branch of the Jiangsu Physician Association.

He has authored or coauthored 215 SCI papers with a total impact factor (IF) of 973.2, including 11 papers with an IF higher than 10, 4 highly cited papers, and 3 papers cited by others more than 100 times. He has assumed the role of chief editor for 10 monographs.

He has received multiple awards, including a second-class national science and technology progress award as the first contributor, along with 5 first-class and 2 second-class provincial and ministerial-level awards. Additionally, he has been honored with prestigious accolades such as the National Outstanding Scientific and Technological Workers Award, the Military Outstanding Professional and Technical Talent Award, the Outstanding Talent Award of Jiangsu Province, the Outstanding Academic Research Award of the Radiology Branch of the Chinese Medical Association, the “Top Ten Science and Technology Stars” of Nanjing City, and the “Hundred Medical Ethics Stars” of Jiangsu Province. Their contributions have also extended to culturing young talent, having cultivated 1 national outstanding youth and 2 excellent youths.

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