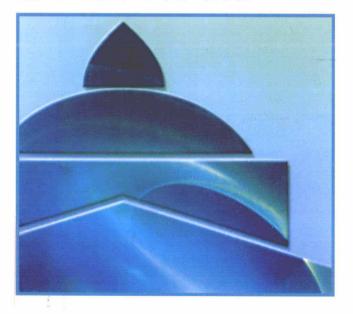
麻省总医院临床麻醉手册

Clinical Anesthesia Procedures of the Massachusetts General Hospital

原书第8版

主 编 Wilton C. Levine

主 译 王俊科 于布为 黄宇光



当科学出版社

中文翻译版

麻省总医院临床麻醉手册

Clinical Anesthesia Procedures of the Massachusetts General Hospital

原书第8版

主 编 Wilton C. Levine

副主编 Rae M. Allain Theodore A. Alston

Peter F. Dunn Jean Kwo

Carl E. Rosow

主 译 王俊科 于布为 黄字光

副主译 马 虹 陈卫民 张铁铮

主 审 郑斯聚 盛卓人 罗爱伦

科学出版社

北京

内容 简介

美国麻省总医院是美国哈佛大学医学院的教学医院,也是美国最高 水平的医院之一。由该院麻醉科编写的《麻省总医院临床麻醉手册》是美 国麻醉医师的经典教科书,具有很高的权威性,美国麻醉医师几乎人手一 册。本书自30余年前出版以来,不断改版更新,现已出第8版。本书内 容丰富、精炼、实用,对麻醉操作、管理做了详细全面的介绍,非常适合各 级临床麻醉医师、内科及外科住院医师等使用。

图书在版编目(CIP)数据

麻省总医院临床麻醉手册:原书第8版/(美)莱文(Levine, W. C.)主编;王俊科,于布为,黄宇光主译.一北京:科学出版社,2012.1

书名原文: Clinical Anesthesia Procedures of the Massachusetts General Hospital

ISBN 978-7-03-033116-8

Ⅰ.麻… Ⅱ.①莱… ②王… ③于… ④黄… Ⅲ.麻醉 学-手册 IV. R614-62

中国版本图书馆 CIP 数据核字(2011)第 271771 号

责任编辑:戚东桂/责任校对:张凤琴 责任印制:刘士平/封面设计:范璧合

本书中提到了一些药物的适应证、不良反应和剂量,它们可能需要根据实际情 况进行调整。读者须仔细阅读药品包装盒内的使用说明书。

This is a translation of Clinical Anesthesia Procedures of the Massachu-

setts General Hospital

Copyright © 2010 by Lippincott Williams & Wilkins, a Wolters Kluwer business. All rights reserved

Chinese translation 2012, published by arrangement with Lippincott Wil-

liams & Wilkins, USA

This book may not be sold outside the People's Republic of China Lippincott Williams & Wilkins/Wolters Kluwer Health 没有参加本书的 翻译工作

版权所有,违者必究。未经本社许可,数字图书馆不得使用

舒学出版社 出版

北京东黄城根北街16号 邮政编码:100717

http://www.sciencep.com

双青印刷厂印刷

科学出版社发行 各地新华书店经销

2012年1月第 一版 开本: 787×960 1/32 印张: 29 1/2 2012年1月第一次印刷

> 字数: 795 000 定价: 98.00元

(如有印装质量问题,我社负责调换)

《麻省总医院临床麻醉手册》翻译人员

主 译 王俊科 于布为 黄宇光 副主译 主 审 译

马虹 陈卫民 张铁铮 郑斯聚 盛卓人 罗爱伦 者 (按姓氏汉语拼音排序) 艾春雨 卞慧娴 曹学照 陈卫民 崔 湧 刁玉刚 董 泉 方 波 郭艳辉 韩 盛 赫冠男 黄宇光 惠尚懿 江晓菁 蒋 愈 金 强 金善良 李晓倩 刘 钢 刘洪涛 刘学胜 刘子嘉 吕黄伟 罗 艳 马虹马爽装凌 曲冬梅 任晓燕 孙喜家 孙艳红 孙莹杰 陶国荣 万成福 王 俊 王团 王俊科 王海棠 王玲玲 王以亮 吴滨阳 吴秀英 徐嘉莹 许霁虹 薛庆生 严 俊 尹秀茹 于布为 虞建刚 袁治国 张铁铮 张岩生 赵 平 赵芸慧 周 锦 朱俊超

CONTRIBUTORS

Paul H. Alfille, MD

Assistant Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Rae M. Allain, MD

Assistant Professor of Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Theodore A. Alston, MD, PhD

Assistant Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Keith Baker, MD, PhD

Assistant Professor of Anesthesia Harvard Medical School Vice Chair for Education Residency Program Director Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Karsten Bartels

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Brian T. Bateman, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

William Benedetto, MD

Instructor in Anesthesia Harvard Medical School Assistant Director Post Anesthesia Care Unit Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Claudia Benkwitz, MD, PhD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Sheri Berg, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Luca M. Bigatello, MD

Associate Professor of Anesthesia Harvard Medical School Chief Anesthesia and Critical Care Service VA Boston Heathcare System Associate Vice Chair for the VA Program Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Edward A. Bittner, MD, PhD

Instructor in Anesthesia
Harvard Medical School
Fellowship Director
Critical Care Medicine
Department of Anesthesia,
Critical Care, and Pain Medicine
Massachusetts General Hospital
Boston, Massachusetts

Jonathan D. Bloom, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Brian D. Cauley, MD, MPH

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jonathan E. Charnin, MD

Instructor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Lisa Charo Bain, MD

Clinical Fellow in Neonatology University of California Health Sciences Clinical Instructor Department of Pediatrics Moffit-Long Hospitals UCSF Medical Center San Francisco, California

Jennifer Chatburn, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Victor A. Chin, MD

Clinical Fellow in Anesthesia Harvard Medical School Clinical Fellow Pain Medicine Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Hovig V. Chitilian, MD

Instructor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Stephanie C. Cintora, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jeffrey B. Cooper, PhD

Professor of Anesthesia Harvard Medical School Director Biomedical Engineering Partners Healthcare Boston, Massachusetts

Jonathan H. Cronin, MD

Assistant Professor Harvard Medical School Unit Chief Neonatology and Newborn Medicine Department of Pediatrics Massachusetts General Hospital Boston, Massachusetts

Anne M. Drewry, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Peter F. Dunn, MD

Assistant Professor in Anesthesia Harvard Medical School Executive Medical Director Operating Rooms Executive Vice Chair Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Oleg V. Evgenov, MD, PhD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Christine Finer, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Stuart A. Forman, MD, PhD

Associate Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Keith Fragoza, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Margaret A. Gargarian, MD

Assistant Professor of Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Cosmin Gauran, MD

Instructor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Edward E. George, MD, PhD

Assistant Professor of Anesthesia Harvard Medical School Director Post Anesthsia Care Unit Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Greg Ginsburg, MD

Instructor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Sara N. Goldhaber-Fiebert, MD

Instructor in Anesthesia
Harvard Medical School
Assistant in Anesthesia
Department of Anesthesia,
Critical Care, and Pain Medicine
Massachusetts General Hospital
Boston, Massachusetts

Thomas J. Graetz, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

P. Grace Harrell, MD

Assistant Professor of Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Bishr Haydar, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Christopher J. Hodge, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Maryam Jowza, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

William R. Kimball, MD, PhD

Assistant Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

James Y. Ko. MD. MPH

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Mary Kraft, MD

Assistant Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Vikram Kumar, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Asheesh Kumar, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jean Kwo, MD

Assistant Professor in Anesthesia Harvard Medical School Director Pre-admission Testing Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Stephanie L. Lee, MD, PhD

Associate Professor of Medicine Associate Chief Section of Endocrinology Diabetes and Nutrition Department of Medicine Boston University School of Medicine Boston, Massachusetts

Lisa Leffert, MD

Assistant Professor in Anesthesia Harvard Medical School Director Obstetric Anesthesia Vice Chair Faculty Development Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Scott A. LeGrand, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Wilton C. Levine, MD

Instructor in Anesthesia Harvard Medical School Clinical Director Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jason M. Lewis, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Kris C. Lukauskis, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

John J. A. Marota, MD, PhD

Assistant Professor in Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Salomon M. Maya, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Rebecca D. Minehart, MD

Instructor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Junichi Naganuma, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Vilma E. Ortiz, MD

Assistant Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Amy J. Ortman, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesiologist Department of Anesthesiology Perioperative and Pain Medicine Brigham and Women's Hospital Boston, Massachusetts

Lisbeth L. Pappas, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

M. Richard Pavao, MD

Clinical Fellow in Anesthesia Harvard Medical School Clinical Fellow Pain Medicine Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Deborah S. Pederson, MD

Instructor in Anesthesia Harvard Medical School Assistant Residency Program Director Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Robert A. Peterfreund, MD, PhD

Associate Professor Harvard Medical School Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

May C. M. Pian-Smith, MD, MS

Assistant Professor Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Richard M. Pino, MD, PhD

Associate Professor in Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jason Zhensheng Qu, MD

Assistant Professor in Anesthesia Harvard Medical School Assistant in Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Shubha V. Y. Raju, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Bradley E. Randel

Assistant Professor of Anesthesia Department of Anesthesia University of California, Davis School of Medicine Sacromento, California

James P. Rathmell, MD

Associate Professor of Anesthesia Harvard Medical School Director, Pain Medicine Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Jesse D. Roberts, Jr, MD, MS, FAAP

Associate Professor of Anesthesia Harvard Medical School Associate Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Associate Scientist Department of Medicine Associate Pediatrician Pediatric Service Neonatology Massachusetts General Hospital Boston, Massachusetts

Carl E. Rosow, MD

Professor of Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Warren S. Sandberg, MD, PhD

Associate Professor of Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Ulrich Schmidt, MD, PhD

Assistant Professor in Anesthesia Harvard Medical School Medical Director Surgical Intensive Care Unit Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Shahzad Shaefi, MD, MBBS

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Michael R. Shaughnessy, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Kenneth E. Shepherd, MD

Assistant Professor in Anesthesia Harvard Medical School Assistant Anesthetist Massachusetts General Hospital Boston, Massachusetts

Emily A. Singer, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Ethan Small, MD

Clinical Fellow in Anesthesia Harvard Medical School Clinical Fellow Cardiac Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Ken Solt, MD

Assistant Professor in Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Michele Szabo, MD

Assistant Professor of Anesthesia Harvard Medical School Director, Medical Student Education Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Alla Tauber, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Arthur J. Tokarcyzk, MD

Clinical Fellow in Anesthesia Harvard Medical School Clinical Fellow in Critical Care Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Andrew R. Vaclavik, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Susan A. Vassallo, MD

Assistant Professor of Anesthesia Harvard Medical School, Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Rafael Vazquez, MD

Clinical Fellow in Anesthesia Harvard Medical School Anesthesia Resident Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Lisa Warren, MD

Instructor in Anesthesia Harvard Medical School Director Regional and Ambulatory Anesthesia Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Lisa Wollman, MD

Assistant Professor of Anesthesia Harvard Medical School Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

Zhongcong Xie, MD, PhD

Associate Professor Harvard School of Medicine Assistant Anesthetist Department of Anesthesia, Critical Care, and Pain Medicine Massachusetts General Hospital Boston, Massachusetts

前言

《麻省总医院临床麻醉手册》(第8版)是由麻省总医院麻醉、重症监护和疼痛医学科的全体同仁共同编写。手册继续注重介绍与麻醉的安全管理、围手术期处理、重症监护和疼痛治疗相关的临床基础知识。本手册反映了当前麻省总医院的临床实践,描述了麻醉科住院医师及重症监护、疼痛治疗和心胸麻醉医师的基本培养模式。

本手册补充了教科书和杂志的内容以及麻醉、重症监护与疼痛治疗学的一些前沿知识。编写的目的是为临床麻醉实习 医师、麻醉住院医师、麻醉护士、麻醉助理、内外科住院医师及护士、麻醉实习护士、呼吸治疗师和其他参与围手术期治疗相关的医务人员提供方便而准确的信息来源。本手册旨在提高临床教学经验,鼓励更详尽地进行学习。因此,每一章都提供了最新的推荐阅读材料。

30 多年来,在 200 多位同仁的共同努力下,《麻省总医院临床麻醉手册》经历了反复的修订和再版,以适应麻醉领域的不断变化。第 8 版在此前的基础上,添加了新的知识,删除了冗余的内容,更保持了便携的特色。我们此次改版力争在保留先前版本必要内容的同时,使其易于阅读。

我们衷心感谢前几版的编者:第1版(1978): Philip W. Lebowits, John L. Clark, Daniel F. Dedrick, James R. Zaidan, Robert K. Crone; 第2版(1982): Philip W. Lebowitz, Leslie A. Newberg, Michael T. Gillette; 第3版(1988): Leonard L. Firestone, Philip W. Lebowitz, Charles E. Cook; 第4版(1993): J. Kenneth Davison, William F. Eckhardt, III, Deniz A. Perese; 第5版(1997): William E. Hurford, Michael T. Bailin, J. Kenneth Davison, Kenneth L. Haspel, Carl Rosow; 第6版(2002): William E. Hurford, Michael T. Bailin, J. Kenneth Davison, Kenneth L. Haspel, Carl Rosow, Susan

A. Vassallo; 第 7 版 (2007): Peter F. Dunn, Theodore A. Alston, Keith H. Baker, J. Kenneth Davison, Jean Kwo, Carl E. Rosow。

同时也感谢以下编者所做的贡献: Salahadin Abdi, Martin Andrew Acquadro, Aalok Agarwala, Shahriar Alikhani, Paul H. Alfille, James K. Alfimoff, Rae M. Allain, Robert P. Antonio, Rebecca Aslakson, Edwin G. Avery, IV, Hemanth A. Baboolal, Michael Bailin, Keith H. Baker, Jane C. Ballantyne, Paul Barach, James M. Barton, Salvatore J. Basta, Wayne H. Bellows, Clifferd Bierman, Luca M. Bigatello, Janice Bitetti, Edward Bittner, Ross Blank, Kenneth Blazier, Joshua Bloomstone, David Borsook, Ronald J. Botelho, Jeffrey B. Brand, James G. Cain, Jason A. Campagna, William H. Campbell, Bryn T. Carpenter, Daniel B. Carr, Christopher Carter, Shobana Chandrasekhar, Bobby Su-Pen Chang, Jonathan E. Charnin, Hovig Chitilian, John L. Clark, David Clement, Lydia Conlay, Charles E. Cook, Jeffrey B. Cooper, Benjamin G. Covino, Garland A. Cowan, Robert K. Crone, Jonathan H. Cronin, Marianna Crowley, Deborah J. Culley, Alberto de Armendi, Daniel F. Dedrick, Kevin C. Dennehy, Mark Dershwitz, Dragos Diaconescu, John V. Donlon, Peter F. Dunn, Richard P. Dutton, William Derlewsky, Clifton W. Emerson, Paul L. Epstein, Johnica A. Eyvazzadeh, Leonard L. Firestone, Susan Firestone, Stuart A. Forman, Robert Gaiser, Margaret Gargarian, Edward E. George, Clifford M. Gevirtz, Noel Gibney, Michael T. Gibney, Michael T. Gilette, Greg Ginsburg, Kenneth Giuffre, Randall S. Glidden, Takeahisa Gogo, Sara N. Goldhaber-Fiebert, Loreta Grecu, Robin Kelly Guillory, Adrian K. Hamburger, Heath Gulden, Tania Haddad, Douglas M. Hansell, Jane Hardiman, P. Grace Harrell, Judith Hellman, Timothy J. Herbst, J. Fredrik Hesselvik, Randall S. Hickle, Thomas L. Higgins, Thomas Hill, Allen J. Hinkle, Ion Hobai, Vincent L. Hoellerich, Jonathan G. Hsaio, Robert Hunsaker, William E. Hurford, Mansoor Husain, Gloria Hwang, D. Jay Iaconetti, Jason M. Isa, Charles C. Jeffrey, Andrew A. Jeon, Ping Jin, Ritu Kapoor, Michael D. Kaufman, Lisa A. Keglovits, William Kimball, David Kliewer, David Koehler, W. Andrew Kofke, James L. Konigsberg, Peter G. Kovatsis, Mary Kraft, Jean Kwo, Jill Lanahan, William B. Latta, Phillip K. Lau, Charles E. Laurito, Philip W. Lebowitz, Harish Lecamwasam, Betty Lee, Stephanie Lee, Lisa Leffert, Paul Lennon, Rebecca Leong, David Lerdahl, Wilton C. Levine, Jerrold H. Levy, Michael C. Long, Thomas J. Long, James C. Loomis, Amy C. Lu, Avine Lydon, Ward Reynolds Maier, John J. Marota, George A. Mashour, Eric Corey Matten, James B. Mayfield, Piotr Michalowski, Thomas A. Mickler, Richard A. Miller, Jeannie Min, Meraj M. Mohiuddin, Rowan Molnar, Holly Ann H. Morgan, Robert J. Morgan, Brian P. Murray, Michael Natale, Leslie A. Newberg, Ronald S. Newbower, Phillippa Newfield, Ervant Nishanian, Takefumi Nishida, Ala Nozari, Daniel L. Nozik, Conor O'Neill, Vilma E. Ortiz, Charles W. Otto, Sissela Park, George W. Pasvankas, Onofrio Patafio, Black M. Paterson, John Pawlowski, Robert A. Peterfreund, May C. M. Pian-Smith, Michael Pilla, Richard M. Pino, Marjorie A. Podraza, Marie Csete Prager, Douglas E. Raines, Frederic M. Ramsey, Bradley E. Randel, Stacey Lynn Remchuk, Ricardo Rivera, James T. Roberts, Jesse D. Roberts, Ir, Peter Rosenbaum, Carl Rosow, Fred A. Rotenberg, Peter Rothstein, Steve Rotter, Stephanie L. Roundtree, Barbara A. Ryan, Owais Saifee, Warren S. Sandberg, Adam Sapirstein, William P. Schecter, Larry B. Scott, Jaianand S. Sethee, Kenneth E. Shepherd, Harvey C. Shew, George Shorten, Deepal S. Sidhu, Stephen Small, Ken Solt, Deborah Stadfelt, Aileen Starnbach, Wolfgang Steudel, David J. Stone, Barry M. Stowe, Scott C. Streckenbach, Susan L. Streitz, Veronica C. Swanson, Bobbie-Jean Sweitzer, Michele Szabo, Alfonso A. Tagliavia, Robert E. Tainsh, Frank A. Takacs, Gary D. Thal, Steven Thorup, I. David Todres, Arthur J. Tokarczyk, Susan A. Vassallo, Jeanna D. Viola, John S. Wadlington, Samuel Wald, John L. Walsh, Lisa Warren, James P. Welch, Richard A. Wiklund, Derrick B. Willsey, Norman E. Wilson, Julianne S. Wimberly, Lisa Wollman, Tzuhao Harry Wu, ZhangcongXie, Roy P. H. Yang, James R. Zaidan, Matthew W. Zeleznik ≉ Maria M. Zestos。

由衷感谢 Rhonda Valenti 女士对本书出版给予的行政上的帮助。感谢 Nicole Dernoski 女士及其在 Lippincott Williams & Wilkins 出版社的同事在编辑上的帮助和支持。同时我要感谢 Richard J. Kitz 医生关于本书的远见卓识(early vision),感谢 Warren M. Zapol 医生和 Jeanine Wiener-Kronish 医生一直以来对本书给予的指导和支持。最后,感谢我挚爱的妻子 Lisa 及我的两个儿子 Joshua 和 Benjamin 给予我的无尽的爱与支持。

Wilton C. Levine, MD (艾春雨译 王 俊审校)