

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)

Education in Anesthesia

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)

Education in Anesthesia

How to Deliver the Best Learning Experience

Edited by

Edwin A. Bowe

University of Kentucky College of Medicine

Randall M. Schell

University of Kentucky College of Medicine

Amy N. DiLorenzo

University of Kentucky College of Medicine



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)

CAMBRIDGE UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom
One Liberty Plaza, 20th Floor, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India
79 Anson Road, #06-04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781316630389
DOI: 10.1017/9781316822548

© Cambridge University Press 2018

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2018

Printed in the United Kingdom by TJ International Ltd. Padstow Cornwall

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Names: Bowe, Edwin A., 1949– editor. | Schell, Randall M., 1960– editor. | DiLorenzo, Amy N., 1972– editor.

Title: Education in anesthesia : how to deliver the best learning experience / edited by Edwin A. Bowe, Randall M. Schell, Amy N. DiLorenzo.

Description: Cambridge, United Kingdom; New York, NY: Cambridge University Press, 2018. | Includes bibliographical references and index.

Identifiers: LCCN 2017044980 | ISBN 9781316630389 (pbk.)

Subjects: | MESH: Anesthesiology – education | Anesthesia – methods | Teaching

Classification: LCC RD81 | NLM WO 18 | DDC 617.9/6–dc23

LC record available at <https://lccn.loc.gov/2017044980>

ISBN 978-1-316-63038-9 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Contents

List of Contributors page vii

1	Creating (and Choosing) an Optimal Learning Environment 1		11	Teaching and Learning Regional Anesthesia 113	
	Randall M. Schell and Amy N. DiLorenzo			Glenn Woodworth, Ryan Ivie, and Robert Maniker	
2	Learning Styles in Anesthesiology Education 13		12	Teaching Transesophageal Echocardiography 121	
	Randall M. Schell and Amy N. DiLorenzo			John D. Mitchell and Robina Matyal	
3	Clinical Reasoning 17		13	Teaching Point-of-Care Ultrasound (POCUS) to the Perioperative Physician 131	
	Edwin A. Bowe			Davinder Ramsingh and Jason Gatling	
4	Curriculum Development 25		14	How to Design Multimedia Presentations 151	
	Amy N. DiLorenzo and Randall M. Schell			Richard E. Mayer	
5	Time-Efficient Teaching Strategies in Anesthesia 35		15	The Interactive Classroom 160	
	Manuel Pardo Jr.			Susan M. Martinelli and Edwin A. Bowe	
6	Teaching in the Preanesthesia Clinic 41		16	E-Learning in Anesthesiology 186	
	Rebecca M. Gerlach, Jeanna D. Blitz, and BobbieJean Sweitzer			Amy N. DiLorenzo and Randall M. Schell	
7	Teaching in the Operating Room 58		17	The Role of Simulation in Anesthesiology Education 192	
	Edwin A. Bowe			Amanda R. Burden	
8	Teaching in the Intensive Care Unit: Creating an Effective Educational Experience 70		18	Test-Enhanced Learning: Using Retrieval Practice via Testing to Enhance Long-Term Retention of Knowledge 212	
	Gary R. Stier			Randall M. Schell and Amy N. DiLorenzo	
9	Pain Medicine Education in Anesthesiology Training 81		19	Teaching Professionalism during Anesthesiology Residency 218	
	Matthew Reed, Naileshni Singh, and Jordan Newmark			John E. Tetzlaff and Edwin A. Bowe	
10	A Foundation for Teaching Airway Management 89		20	Providing Feedback 224	
	Marc Hassid, J. Scott Walton, John J. Schaefer III, and Stephen F. Dierdorf			John D. Mitchell and Stephanie B. Jones	

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)

Contents

21	The Resident as a Teacher	232	
	Robert Gaiser		
22	Teaching Quality and Safety	241	
	John H. Eichhorn		
23	Teaching Residents How to Critically Read and Apply Medical Literature	255	
	Brian S. Donahue, Brian J. Gelfand, and Matthew D. McEvoy		
			<i>Index</i> 261
			<i>A supplementary chapter, Training Physician-Scientists in Anesthesiology and Perioperative Medicine: Challenges, Opportunitites and Strategies for Success by Brian J. Gelfand, Frederic T. Billings IV, Pratik Pandharipande, Edward Sherwood, and Matthew D. McEvoy, can be found at www.cambridge.org/9781316630389</i>

Contributors

Frederic T. Billings IV, MD

Co-Director B. H. Robbins Scholars Program,
 Department of Anesthesiology, Vanderbilt
 University Medical Center and Assistant Professor
 of Anesthesiology, Vanderbilt University School of
 Medicine, Nashville, TN

Jeanna D. Blitz, MD

Assistant Professor and Director, Preoperative
 Evaluation Clinic, Department of Anesthesiology,
 Perioperative Care and Pain Medicine, New York
 University School of Medicine, New York, NY

Edwin A. Bowe, MD

Professor, Department of Anesthesiology, University
 of Kentucky College of Medicine, Lexington, KY

Amanda R. Burden, MD

Associate Professor of Anesthesiology, Vice Chair
 of Faculty Affairs, Director of Clinical Skills and
 Simulation, Cooper Medical School of Rowan
 University, Cooper University Hospital, Camden, NJ

Stephen F. Dierdorf, MD

Professor of Clinical Anesthesia, Department of
 Anesthesiology and Perioperative Medicine, Medical
 University of South Carolina, Charleston, SC

Amy N. DiLorenzo, MA

Assistant Dean for Graduate Medical Education
 and Senior Lecturer, Department of Anesthesiology,
 University of Kentucky College of Medicine,
 Lexington, KY

Brian S. Donahue, MD, PhD

Professor of Anesthesiology and Pediatrics,
 Department of Anesthesiology, Monroe Carell
 Jr Children's Hospital at Vanderbilt, Vanderbilt
 University Medical Center, Nashville, TN

John H. Eichhorn, MD

Professor, Department of Anesthesiology, University
 of Kentucky College of Medicine and Provost's
 Distinguished Service Professor, University of
 Kentucky, Lexington, KY

Robert Gaiser, MD

Professor and Chair, Department of Anesthesiology,
 University of Kentucky, Lexington, KY

Jason Gatling, MD

Associate Professor, Department of Anesthesiology,
 Loma Linda University Medical Center, Loma
 Linda, CA

Brian J. Gelfand, MD

Associate Vice-Chair for Educational Affairs and
 Program Director, Department of Anesthesiology,
 Vanderbilt University Medical Center and Associate
 Professor of Anesthesiology and Surgery, Vanderbilt
 University School of Medicine, Nashville, TN

Rebecca M. Gerlach, MD, FRCPC

Assistant Professor and Director, Anesthesia
 Perioperative Medicine Clinic, Department of
 Anesthesia and Critical Care, University of Chicago,
 Chicago, IL

Marc Hassid, MD

Assistant Professor of Anesthesia, Department of
 Anesthesiology and Perioperative Medicine, Medical
 University of South Carolina, Charleston, SC

Stephanie B. Jones, MD

Associate Professor of Anaesthesia, Harvard Medical
 School and Vice Chair for Education and Faculty
 Development, Department of Anesthesia, Critical
 Care, and Pain Medicine, Beth Israel Deaconess
 Medical Center, Boston, MA

Contributors

Ryan Ivie, MD

Assistant Professor and Assistant Program Director
Regional Anesthesia and Acute Pain Medicine
Fellowship, Oregon Health and Science University,
Portland, OR

Robert Maniker, MD

Assistant Professor, Columbia University School of
Medicine, New York, NY

Susan M. Martinelli, MD

Associate Professor, Department of Anesthesiology,
University of North Carolina, Chapel Hill, NC

Robina Matyal, MD

Associate Professor of Anaesthesia, Harvard Medical
School and Staff Anesthesiologist, Department of
Anesthesia, Critical Care, and Pain Medicine, Beth
Israel Deaconess Medical Center, Boston, MA

Richard E. Mayer, PhD

Distinguished Professor, Department of
Psychological and Brain Sciences, University of
California, Santa Barbara, CA

Matthew D. McEvoy, MD

Vice-Chair for Educational Affairs, Department
of Anesthesiology, Vanderbilt University Medical
Center and Professor of Anesthesiology, Vanderbilt
University School of Medicine, Nashville, TN

John D. Mitchell, MD

Associate Professor of Anaesthesia, Harvard Medical
School and Residency Program Director, Department
of Anesthesia, Critical Care, and Pain Medicine, Beth
Israel Deaconess Medical Center, Boston, MA

Jordan Newmark, MD

Chairman, Department of Anesthesiology and
Director (Interim), Pain & Functional Restoration
Clinic, Alameda Health System, Adjunct Clinical
Assistant Professor, Department of Anesthesiology,
Perioperative and Pain Medicine, Division of
Addiction Medicine, (by courtesy), Stanford
University School of Medicine, Stanford, CA

Pratik Pandharipande, MD

Chief, Division of Anesthesiology Critical Care
Medicine, Department of Anesthesiology, Vanderbilt
University Medical Center and Professor of
Anesthesiology, Vanderbilt University School of
Medicine, Nashville, TN

Manuel Pardo Jr., MD

Professor and Vice Chair for Education and
Residency Program Director, University of
California, San Francisco, Department of Anesthesia
and Perioperative Care, San Francisco, CA

Davinder Ramsingh, MD

Associate Professor, Department of Anesthesiology,
Loma Linda University Medical Center, Loma
Linda, CA

Matthew Reed, MD, MSPH

Assistant Professor, University of California Davis,
Department of Psychiatry and Behavioral Sciences,
Behavioral Health Clinic, Sacramento, CA

John J. Schaefer III, MD

Professor of Anesthesia and Associate Dean
for Statewide Clinical Effectiveness Education,
Department of Anesthesiology and Perioperative
Medicine, Medical University of South Carolina,
Charleston, SC

Randall M. Schell, MD, MACM

Professor and Vice Chair for Education and
Program Director, Department of Anesthesiology,
University of Kentucky College of Medicine,
Lexington, KY

Edward Sherwood, MD, PhD

Vice-Chair for Research, Department of
Anesthesiology, Vanderbilt University Medical
Center and Cornelius Vanderbilt Chair in
Anesthesiology and Professor of Anesthesiology,
Pathology, Microbiology and Immunology,
Vanderbilt University School of Medicine, Nashville,
TN

Naileshni Singh, MD

Assistant Professor, Division of Pain Medicine,
University of California Davis, Department of
Anesthesiology and Pain Medicine, Sacramento, CA

Gary R. Stier, MD, MBA

Professor of Anesthesiology, Internal Medicine, and
Critical Care, Department of Anesthesiology, Loma
Linda University Medical Center, Loma Linda, CA

BobbieJean Sweitzer, MD, FACP

Professor of Anesthesiology and Director,
Perioperative Medicine, Department of
Anesthesiology, Northwestern University, Chicago, IL

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)

Contributors

John E. Tetzlaff, MD

Professor of Anesthesiology, Cleveland Clinic
Lerner College of Medicine of Case Western Reserve
University and Staff Anesthesiologist, Department of
General Anesthesia, Cleveland Clinic, Cleveland, OH

J. Scott Walton, MD

Associate Professor of Anesthesia, Department of
Anesthesiology and Perioperative Medicine, Medical
University of South Carolina, Charleston, SC

Glenn Woodworth, MD

Editor of Anesthesia Education Toolbox, Associate
Professor, and Director, Regional Anesthesia and
Acute Pain Medicine Fellowship, Oregon Health and
Science University, Portland, OR

Cambridge University Press
978-1-316-63038-9 — Education in Anesthesia
Edited by Edwin A. Bowe , Randall M. Schell , Amy N. DiLorenzo
Frontmatter
[More Information](#)
