ANESTHESIA CARE OF PEDIATRIC PATIENTS IN DEVELOPING COUNTRIES

George A. Gregory, M.D.
Dean B. Andropoulos, M.D.
Dedication:

This book is dedicated to the children of the world and to those who provide anesthesia care for them.
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List of Contributors

George A. Gregory  
MD  
Professor of Anesthesia and Pediatrics (Emeritus), 
University of California, San Francisco, USA

Dean B. Andropoulos  
MD, MHCM  
Anesthesiologist-in-Chief  
Texas Children’s Hospital  
Professor of Anesthesiology and Pediatrics  
Vice Chair for Clinical Affairs, 
Department of Anesthesiology  
Baylor College of Medicine. Houston, TX, USA

Bruno Bissonnette  
MD  
Professor of Anesthesia, Department of Anesthesia and Critical Care Medicine, University of Toronto, Ontario, Canada. Professor of Anesthesiology, Department of Anesthesiology, The Ohio State University, International Consultant, Department of Anesthesiology and Pain Medicine, Nationwide Children’s Hospital, Founder and President of the Children of the World Anesthesia Foundation. Canada

Claire Brett  
MD  
Professor Emeritus of Anesthesia and Pediatrics, University of California, San Francisco  
San Francisco CA, USA

Stefan Burdac  
MD  
Attending Anesthesiologist, Seattle Children’s Hospital  
Assistant Professor of Anesthesiology, University of Washington, Seattle, Washington, USA

Tony Chang  
MD  
Clinical Instructor of Anesthesia and Perioperative Care, University of California, San Francisco  
San Francisco CA, USA

Elizabeth Donegan  
MD  
Professor of Clinical Anesthesia and Perioperative Care, University of California San Francisco  
San Francisco CA, USA

R. Blaine Easley  
MD  
Associate Professor of Pediatric Anesthesiology, Texas Children’s Hospital/Baylor College of Medicine, Houston, Texas, USA
List of Contributors

Susan Fossum
RN
PACU Staff Nurse, Shriners Hospitals for Children, Northern California
Sacramento, CA, USA

Dorothy Gaal
MD
Assistant Professor of Anesthesiology and of Neurosurgery; Clinical Director Pediatric Anesthesia, Yale University, School of Medicine
New Haven CT, USA

Richard Gillerman
MD
Clinical Assistant Professor, Warren Alpert School of Medicine, Brown University, Lifespan Hospitals/Hasbro Children's Hospital
Providence RI, USA

Marisol Zuluaga Giraldo
MD
Professor, Postgraduate Program of Anesthesia, Resuscitation and Intensive Care of the Universidad Pontificia Bolivariana, Medellin, Colombia, Anesthesiologist Hospital Pablo Tobon Uribe (HPTU), Medellin, Colombia Adult and Pediatric Liver Transplantation Program HPTU, Medellin, Colombia

Michael A. Gorena
MD
Assistant Professor, Pediatrics and Anesthesiology, Texas Children’s Hospital, Baylor College of Medicine, Houston, Texas, USA

Lisa D. Heyden
MD
Assistant Professor, Pediatrics and Anesthesiology - Baylor College of Medicine, Texas Children’s Hospital, Houston, Texas, USA

E. Heidi Jerome
MD
Associate Professor of Anesthesiology and Pediatrics, College of Physicians and Surgeons of Columbia University, New York, NY, USA

Latha Kampalath
MD
Assistant Professor of Anesthesiology, Medical College of Wisconsin Milwaukee, WI, USA

David G. Mann
MD
Assistant Professor, Pediatrics and Anesthesiology, Texas Children’s Hospital, Baylor College of Medicine, Houston, Texas, USA

Lynn D. Martin
MD
Director, Department of Anesthesiology & Pain Medicine Medical Director, Continuous Performance Improvement Seattle Children's Hospital Professor of Anesthesiology & Pediatrics (Adj.) University of Washington School of Medicine Seattle WA, USA
J. Grant McFadyen
MBChB
Attending Anesthesiologist
Lucille Packard Children’s Hospital,
Clinical Assistant Professor, Stanford
University School of Medicine
Stanford, CA, USA

Olutoyin Olutoye
MD
Associate Professor of Anesthesiology & Pediatrics
Texas Children’s Hospital, Baylor College of Medicine
Houston, Texas, USA

Fabian Okonski
MD
Chief of Pediatric Anesthesia, Group Anesthesia Services, Inc., San Jose, CA;
Adjunct Clinical Instructor,
Lucile Packard Children’s Hospital at Stanford,
Palo Alto, CA, USA

Maria Pedersen
RN
PACU/Perioperative Staff Nurse,
Sutter Davis Hospital
Davis, CA, USA

George Politis
MD
Associate Professor of Anesthesiology and Pediatrics
University of Virginia Health System
Charlottesville, VA, USA

Ashraf M. Resheidat
MD
Fellow in Pediatric Anesthesiology and Critical Care, Departments of Pediatrics and Anesthesiology, Texas Children’s Hospital/Baylor College Medicine,
Houston, Texas, USA

Michael Richards
MBBS, FRCA
Attending Anesthesiologist
Seattle Children’s Hospital
Associate Professor, University of Washington School of Medicine
Seattle WA, USA
List of Contributors
Preface

George A. Gregory, MD and Dean Andropoulos, MD

Approximately 35 percent of the world’s population is < 18 years of age. Many of these children require surgery each day. As a result, about 10 percent of all surgeries performed throughout the world each year are performed in this age group, which requires someone to provide anesthesia. For anesthesia to be safe, the anesthetist must understand the many physiologic and pharmacologic differences between children and adults. Providing anesthesia by a formula (giving a specific amount of a drug by some formula, e.g., mg/kg), as is often done, is dangerous and can be disastrous for some patients. Not all patients are the same and what works for one patient often does not work for another. One reason for this is that there are genetic differences among patients that make their responses to drugs and drug metabolism quite different. An example is codeine. About 85% of people effectively metabolize codeine to morphine and get pain relief from the drug. But for genetic reasons, some people cannot metabolize codeine to morphine and get no pain relief at all from the drug beyond that due to other drugs with which it is mixed (e.g., acetaminophen). Some people, especially those in West Africa, convert twice-as-much codeine to morphine, which can produce respiratory depression or respiratory arrest, even with normal doses of codeine. Failure to understand these differences either proves to be disastrous or to result in inadequate pain relief for some people.

It is the authors’ belief and experience that administration of anesthesia must be given based on physiologic principles, not by a formula that is supposed to fit every patient. Where data are available, it is clear that the mortality of surgical patients is much higher when given based on formula than when it is given based on sound principles of physiology and pharmacology. Therefore, wherever possible, the multiple authors of this book have based their statements and recommendations on physiology and pharmacology.

Some of the topics and material presented in this book may be difficult to do or use in low-income settings, but the concepts in these chapters can be applied to the care of many patients. Therefore, it is important for the reader to read and understand each chapter and to determine how to apply the information and concepts to their patients.

The purpose of this book is to provide information for anesthetists in developing countries who must anesthetize children but have limited access to pediatric anesthesia textbooks. All that is
needed to access the contents of this book is access to a computer, and the Internet. This book is available through several anesthesia society websites and commercial e-book companies. There is no charge for downloading the book from the website, and no purchase of the book from a third party is allowed. In many instances it may be appropriate for one person or a group of people to download the book and to reproduce it for distribution to other anesthetists. If this is done, please let us know how many copies of the book were made and distributed. This will help us know how widely the book is distributed. We encourage readers to translate parts of or the entire book into their native languages.

Our goal is to update this material periodically, especially after feedback from people who use the book. Contact the authors at the following email addresses: George Gregory--gregoryg@anesthesia.ucsf.edu; Dean Andropoulos—dra@bcm.edu with questions and suggestions. These questions will be answered as promptly as possible. Also, if there are other subjects you would like to have covered in the book, please let us know at the same email addresses, and we will add them if possible.

George A. Gregory and Dean B. Andropoulos, Editors.

September 2014