

**ANESTHESIA CARE OF
PEDIATRIC PATIENTS IN
DEVELOPING COUNTRIES**

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ANESTHESIA CARE OF PEDIATRIC PATIENTS IN DEVELOPING COUNTRIES

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Dedication:

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

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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

Preface

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.

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