

PREFACE

Pediatric Transfusion: A Physician's Handbook is intended to serve as a resource for all health care providers who transfuse infants and children, as well as for transfusion medicine services called upon to answer questions from practitioners. This book has been designed to provide a concise yet comprehensive source of the most current information in the field to help guide transfusion practice.

The book has been written in the handbook format so it can be carried conveniently in a lab coat pocket. In order to keep the text succinct, some background material has been omitted. *Blood Transfusion Therapy: A Physician's Handbook*, now in its 11th edition, can be used as a companion, to fill in some of the details of basic transfusion medicine that are applicable to both adult and pediatric patients. Readers are referred to the AABB Press book *Pediatric Transfusion Therapy*, as well as reference publications at the end of each section. In addition, the *Pediatric Hemotherapy Data Card* can be used as a companion to *Pediatric Transfusion: A Physician's Handbook*. Not covered in this handbook are specific issues related to therapeutic apheresis which are covered in the 4th edition of AABB's *Therapeutic Apheresis Handbook: A Physician's Handbook* and perioperative issues which are covered in *Perioperative Blood Management: A Physician's Handbook*, 3rd edition, also by AABB. The reader is directed to these excellent publications for more information.

Transfusion should only be performed when the benefits outweigh the risks and, ideally, when evidence exists to show that the transfusion will improve outcomes. With continued concern about the risks of transfusion and the backdrop of changes in health care delivery and reimbursement, patients' physicians and other health care providers are embracing the tenets of

patient blood management (PBM). In 2014 AABB defined PBM as “encompassing all aspects of patient evaluation and clinical management surrounding the transfusion-making process.” PBM depends on a multidisciplinary approach to evaluate each patient before making a decision to transfuse, in order to minimize unnecessary transfusion and make the best therapeutic decision. This is especially true in pediatric transfusion medicine as there are very few appropriate evidence-based studies that inform practice. Appropriate PBM limits unnecessary transfusion, improves outcomes, and reduces the cost of medical care in children, while ensuring that products are available for pediatric patients who will derive the most benefit. Approaches to maximize the health of the pediatric patient prior to transfusion, by interventions such as optimizing hemoglobin levels and minimizing blood loss during any procedures, can also reduce the need for transfusions. Where appropriate, large multicenter prospective observational studies and/or randomized clinical trials are discussed and referenced to support general recommendations made in this handbook.

Each chapter has been updated and revised to reflect current practice. Each is written to outline general concepts of transfusion medicine and blood transfusion therapy, with emphasis on aspects that are unique to pediatric patients. Controversial areas are highlighted. References have been updated to include up-to-date contributions to the literature.

A major change in this edition is the creation of the Special Patients chapter to emphasize the transfusion needs in special groups of pediatric patients. This chapter includes neonates; patients on extracorporeal life support, such as cardiovascular surgery patients and extracorporeal membrane oxygenation; hematopoietic progenitor stem cell transplant and solid organ transplant patients; and sickle cell disease patients, as well as other patients such as thalassemia major patients requiring chronic transfusions.

Writing this handbook is truly a group effort. Each contributing editor was assigned a chapter as his or her primary responsibility. The chapters were then distributed among the group for

review and revisions. As a result, each section becomes the work of the group. In this manner, the contributors come to consensus regarding content, so each chapter reflects more than the practice of just one individual or center.

The hard work of the contributing editors is deeply appreciated on this, our fourth edition. Our special thanks go to Jennifer Boyer and Laurie Munk, who facilitated our face-to-face meeting to discuss each chapter. We also gratefully acknowledge other members of the AABB staff for their support and assistance throughout the project. Again, we welcome comments from our readers so future additions can be further tailored to meet everyone's needs.

Edward C. C. Wong, MD
Susan D. Roseff, MD
Karen E. King, MD
Editors