Preface

Moving Beyond the Ordinary: Transcending Traditions in Pediatric Anesthesia

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Prior to the adoption of ether anesthesia in 1846, children undergoing procedures such as circumcisions or amputations did not receive anesthesia or analgesia. Pain was simply accepted as a necessary part of the surgical intervention. Despite the advances in the field of anesthesia over the next several decades, children were often misrepresented as “little adults.” Even in the 1980s, the belief that infants did not require pain control prevailed. The advent of pediatric anesthesia and other advances in medical science and patient care have revolutionized pediatric surgery and improved the quality of care received by children.

The field of pediatric anesthesia emerged in the 1940s, when pediatric surgeons began performing complex operations on children. Since then, many innovations and new trends in pediatric anesthesia, such as the discovery of different anesthetic agents and airway management with tracheal intubation, have led to the continued evolution of modern pediatric anesthesia care. Because of increasingly complex procedures performed on children and the discovery of other successful therapies, many children with significant congenital abnormalities now live into adulthood, and the prevalence of these patients continues to rise. While pediatric anesthesiologists receive special training to care for these patients, non-pediatric anesthesia providers will increasingly face pediatric-based challenges in their practice.

This issue of *Anesthesiology Clinics* focuses on innovations and new trends in pediatric anesthesia and is intended to update anesthesia providers who care for children and adults with congenital disease. It also strives to highlight areas of unique innovation, such as advances in fetal surgery, optimization of education of the anesthesia provider, and how to be more ecologically friendly in our practice. We start with discussions about new techniques to care for pediatric patients with a difficult airway. We

discuss neurologic implications of anesthetics, including current research on neurotoxicity, a pressing question often asked of the anesthesia provider. We explore a series of interesting topics in pediatric anesthesia, including anesthesia for innovative pediatric surgical procedures, mass casualty preparedness, anesthesia for pediatric burns, managing the child with complex congenital heart disease, and modernizing the education of the pediatric anesthesiologist. This issue also explores care for the pediatric patient outside of the operating room, including the use of regional analgesia and providing safe care to patients in remote locations. We discuss the emerging topic of fetal anesthesia and how to optimally provide care for the fetal patient, a hybrid of pediatric and obstetric anesthesia. Finally, we review how to care for the adult patient with complex congenital disease, address the increasingly common problem of obstructive sleep apnea, and address how we can use electroencephalogram to better tailor anesthesia therapy. We also include an article focusing on moving beyond opioids in the care of pediatric perioperative pain, a topic of great interest in light of the opioid epidemic as well as an article addressing environmental sustainability in the operating room to help reduce our impact on the planet.

While this issue of *Anesthesiology Clinics* is certainly not a comprehensive review of all new topics and trends in pediatric anesthesia, the authors provide interesting and thought-provoking discussions of many exciting innovations in our field. We sincerely thank the authors for sharing their considerable knowledge, expertise, and insights. We hope you enjoy their contributions as much as we have.

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