
Preface

Research on organ transplantation dates back to the eighteenth century. By the mid-twentieth century, the tireless efforts of eminent researchers and expert clinicians made solid organ transplantation a reality. Advances in immunosuppressive therapy and tissue typing processes facilitated the success of solid organ transplants. The first successful kidney transplantation was performed by Dr. Joseph E. Murray at Brigham and Women's Hospital in Boston, MA, in 1954. The first successful pancreas/kidney transplant was performed by Drs. Richard Lillehei and William Kelly at the University of Minnesota in Minneapolis in 1966. In 1967, Dr. Thomas Starzl performed the first successful liver transplantation at the University of Colorado Health Sciences Center in Denver. These successes in the field of abdominal organ transplantation were immediately followed by initiatives in thoracic organ transplantation. Dr. Norman Shumway performed the first successful human heart transplant at Stanford University Hospital in Stanford, CA, in 1968, and Dr. Bruce Reitz at the same university successfully performed the first heart-lung transplant in 1981. Dr. Joel Cooper of the Toronto Lung Transplant Group performed successful single lung and double lung transplantations for the first time at Toronto General Hospital in Toronto, Canada, in 1983 and in 1986, respectively. Transplantations of kidneys, livers, hearts, pancreases, intestines, lungs, and heart-lungs are now considered routine medical treatments for each end-stage organ dysfunction. Composite tissue transplantations, including hand and face transplants, have also become a reality.

We could never sufficiently thank the above-mentioned innovative leaders who brought these challenging transplantations to clinical practice. At the same time, however, we are fully aware that these clinical successes were only possible with advances in the fields of perioperative medical, anesthesia, and critical care, which parallel developments in surgical care. Complexity and unique challenges in the perioperative care of patients undergoing organ transplantation demand these perioperative physicians and all the other healthcare team members have a wider and more in-depth understanding of transplantation medicine for end-stage organ diseases, including pre-transplant preparation and optimization, intraoperative surgical and anesthesia management, and postoperative intensive care. How to care for organ transplantation patients undergoing non-transplant surgeries is also a challenging matter for all healthcare professionals who devote themselves to transplantation medicine.

This textbook, entitled *Anesthesia and Perioperative Care for Organ Transplantation*, represents our best attempt to bring together these components that need to be understood in order to properly meet the perioperative challenges of caring for patients with end-stage organ disease. We designed this textbook as a comprehensive reference featuring thoracic, abdominal, and composite tissue transplantation. This textbook is unique in describing recent developments in organ transplantation medicine such as living donor transplants, donation after cardiac death, perioperative echocardiography, newer organ preservation methods, extracorporeal life support, multiorgan donor management, and simulation education for transplant anesthesiology.

This book is intended for all healthcare professionals who are involved in the care of transplant patients: anesthesiologists, surgeons, intensivists, internal medicine physicians, resident and fellow physicians, medical students, certified registered nurse anesthetists, perioperative care nurses, student nurses, and other healthcare professionals and trainees. We identified the

top experts in their respective fields of transplantation medicine as chapter authors. We thank all of the contributing authors for their generosity in sharing their wisdom and for their commitment to completing the chapters in a timely manner despite their busy clinical work schedules.

This textbook would not have been possible without the tireless support from the editorial team at Springer publishers, Ms. Shelley Reinhardt and Ms. Georgette Forgione, for whom we are most grateful. We also thank Ms. Christine Heiner (Scientific writer, Department of Anesthesiology, University of Pittsburgh) for her help proofreading several chapters.

We sincerely hope that this textbook provides readers with the knowledge base to help improve their clinical practice and ultimately patient outcomes. As we always believe in the scope for further improvement, we sincerely look forward to receiving your comments and criticisms regarding this textbook.

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