Table of Contents

Preface ................................................................. xi
About the Authors. .................................................. xiii

Contents in Print

1. History and Epidemiology ................................. 1
   Massive Blood Transfusion—An Adjunct to Surgical Care .... 1
   Massive Transfusion—History ................................ 3
   Shock and Resuscitation ..................................... 7
   Epidemiology of Large-Scale Blood Use ....................... 14
   Summary and Conclusions .................................. 19
   References ....................................................... 19

2. Coagulation, Coagulopathy, and Laboratory Testing .... 27
   Massive Transfusion—Case 1 ................................. 27
   Bleeding and Coagulation .................................... 31
   Coagulopathy .................................................. 40
   Laboratory Testing ............................................. 46
   References ....................................................... 50

3. Blood Components and Systems ........................... 55
   Massive Transfusion—Case 2 ................................. 55
   Blood Components ............................................. 60
   Blood Systems and the Support of Massive Transfusion .... 69
   References ....................................................... 75
4. Special Clinical Situations ......................... 79
   Massive Transfusion—Case 3 ........................ 79
   Liver Transplantation ............................... 81
   Cardiovascular/Cardiothoracic Surgery ....... 91
   Trauma .............................................. 98
   Obstetric Hemorrhage ............................... 102
   Gastrointestinal Bleeding ......................... 112
   Massive Bleeding in Children ..................... 119
   References ........................................ 126

5. Current Controversy and the Future ............... 147
   Massive Transfusion—Cases 4 and 5 ............... 147
   Balanced Resuscitation ............................ 148
   Better Transfusion Service Response .............. 152
   Better Blood Components .......................... 153
   Hemorrhage Control Bandages and Devices ...... 154
   The Future of Massive Transfusion ............... 155
   References ........................................ 155

Index..................................................... 159

Contents on USB Flash Card

Bonus Material

Introduction
   Appendix A. Sample Trauma Response Process
   Appendix B. Sample Massive Transfusion Protocol
   Appendix C. Sample Adult Massive Transfusion Protocol Flowchart
   Appendix D. Sample Adult Administration Guide and Handoff Summary
   Appendix E. Sample Pediatric Massive Transfusion Protocol Flowchart
   Appendix F. Sample Pediatric Transfusion Reference Card
Appendix G. Approach to Assessment and Response to Excess Bleeding in Patients on Medically Conventional Agents Known to Potentiate Bleeding

Appendix H. Herbal Supplements Explored for Effects on Platelet Function or Plasma Coagulation Based on Traditions of and Interest in Efficacy for Treatment or Prevention of Cardiovascular and Other Conditions

Appendix I. Case Study—A Badly Injured Patient

Appendix J. Case Study—Liver Transplantation