

Associate Editors	vii
Contributors	ix
Preface	xix
Laurence C. Torsher, Richard P. Dutton, Thomas M. McLoughlin Jr, and Francis V. Salinas	
The Meaning of Consent and Its Implications for Anesthesiologists	1
Elizabeth H. Wilson and Christopher M. Burkle	
Introduction	1
History of informed consent	2
Discussion	4
Elements of informed consent	4
Type and amount of information to be provided	6
Separate anesthesia informed consent	6
Written versus verbal informed consent	7
Patient do-not-resuscitate orders and informed consent during the perioperative period	7
Informed consent in unique anesthesia practice settings	8
Summary	17
Disclosure	18
Anesthetic Choices for Intrapartum Cesarean Delivery in Patients with Epidural Labor Analgesia	23
Unyime Ituk and Cynthia A. Wong	
Introduction	23
Epidural anesthesia: conversion from epidural labor analgesia	24
Choice of local anesthetic agents for extension of epidural labor analgesia to surgical anesthesia	26
Analgesic adjuvants for epidural anesthesia	28
Predictors of failure to extend epidural labor analgesia for cesarean delivery	29
Management of failed epidural anesthesia	29
Practical tips for converting epidural labor analgesia to surgical anesthesia	32
	xiii

General anesthesia for intrapartum cesarean delivery	36
Spinal or combined spinal-epidural for intrapartum cesarean delivery	37
Summary	37
Disclosure	38

Foundations for Success in the Transition to Private Practice **41**

Richard P. Dutton and Robert Koehler

Introduction	41
Knowledge	42
How the work is done	42
Where the money comes from	44
How you will get paid, and why it matters	46
What local knowledge do I need?	48
Intangibles	54
What is different on day 1?	54
All settled now; how do I get involved?	56
What if I still want to teach or do research?	58
What if I get it wrong?	59
Summary	60
Disclosure	60

Anesthetic Considerations for Endovascular Neurologic, Vascular, and Cardiac Procedures **63**

Kamilla Esfahani, Brittany A. Bunker, Scott J. Heller,
Edward G. O'Connor, Susan M. Walters, and
Amanda M. Kleiman

General endovascular procedural considerations	63
Anticoagulation	64
Contrast	64
Positioning	64
Anesthetic considerations	65
Neurologic endovascular procedures	65
Preoperative assessment	65
Endovascular vascular procedures	72
Preoperative assessment	72
Endovascular cardiac procedures	80
Preoperative assessment	80
Summary	91
Disclosure	91
Conflicts of interest	91

Update on Ketamine **97**

Jon Y. Zhou, Perry Hamilton, Stephen Macres, Matthew Peña,
and Schirin Tang

Introduction	97
Pharmacology and mechanisms of action	98

Pharmacokinetics	99
Pharmacodynamics	99
Ketamine and acute perioperative pain management	100
Dosing	100
Patient selection/indications	101
Contraindications/adverse effects	101
Monitoring/supervision guidelines	102
Emergency room use of ketamine	102
Ketamine for chronic pain	103
ketamine	103
Oral ketamine	104
Intranasal ketamine	104
Transdermal ketamine	104
Ketamine and sedation	105
Ketamine and major depressive disorder	107
Abuse potential and regulations	110
Summary	110
Disclosure	110

Whole Blood in Modern Anesthesia Practice 115

Christopher T. Stephens, Johanna B. de Haan, Srikar Jonna, and Srikanth Sridhar

Military whole-blood experience	116
US civilian trauma center experience	117
Prehospital whole-blood experience	118
Obstetric whole-blood experience	119
Whole blood in other clinical settings	120
Considerations with whole-blood use	121
Immunologic concerns	122
ABO typing and compatibility	123
Hemolysis and surveillance after whole blood administration	123
Rh incompatibility	124
Circulatory overload	126
Summary and future directions	126
Care points	127
Disclosure	127

The Anesthesiologist's Role in Teaching Airway Management to Nonanesthesiologists: Who, Where, and How 131

Thomas E. Grissom and Ron E. Samet

Introduction	131
What does it mean to be proficient in airway management?	133
Where should this take place and who should be teaching?	141
Do you need to teach direct laryngoscopy, video laryngoscopy, or both?	145
What is the role of simulation?	145
What is on the horizon for airway management training?	148
Summary	150

Care Points	151
Disclosure	151
The Effect of Analgesia and Anesthesia on Postpartum Depression	157
Philip Heesen, Sharon Orbach-Zinger, Sophie Grigoriadis, Stephen Halpern, and Leonid A. Eidelman	
Introduction	157
Definition and diagnosis	158
Neuraxial analgesia and postpartum depression	160
Screening	162
Summary	162
Disclosure	163
Cannabinoids-based Medicine Pharmacology, Drug Interactions, and Perioperative Management of Surgical Patients	167
Samer Narouze, Natalie Strand, and Priodarshi Roychoudhury	
Introduction	168
Cannabis and cannabinoids	168
Δ 9-Tetrahydrocannabinol	168
Cannabidiol	171
Perioperative management of patients on cannabinoids	173
Physiologic effects of cannabis	173
Cannabis products and route of administration	175
Cannabis drug interactions	176
Specific considerations for perioperative management	176
Cannabis intoxication	180
Cannabis intoxication delirium	181
Acute neurocognitive impairment	181
Motor-Sparing Peripheral Nerve Blocks for Shoulder, Knee, and Hip Surgery	189
Sebastián Layera, Mohammed Saadawi, De Q. Tran, and Francis V. Salinas	
Introduction	190
Diaphragm-sparing nerve blocks for shoulder surgery	191
Sensory innervation of the shoulder joint and overlying cutaneous area	191
Strategies to minimize hemidiaphragmatic paresis after interscalene brachial plexus block	191
C7 nerve root block	192
Supraclavicular brachial plexus approach	192
Upper (superior) trunk block	192
Suprascapular nerve block	193
Costoclavicular brachial plexus block approach	195

Summary of hemidiaphragmatic paresis-sparing strategies for shoulder surgery	195
Motor-sparing nerve blocks for total knee replacement	196
Introduction and sensory innervation of the knee	196
Topographic distribution of the peripheral nerves supplying the anteromedial knee	196
Femoral triangle block versus adductor canal block	197
Femoral triangle block versus placebo	197
Femoral triangle block versus periarticular local anesthetic infiltration analgesia	198
Combined femoral triangle block with local anesthetic infiltration analgesia versus local anesthetic infiltration analgesia alone	199
Single-injection versus continuous femoral triangle block	199
Summary of anatomic and clinical evidence of femoral triangle blocks and adductor canal blocks	199
Obturator nerve block	200
Infiltration between the popliteal artery and the capsule of the posterior knee block	200
Popliteal plexus block	201
Summary of evidence for obturator nerve, infiltration between the popliteal artery and the capsule of the posterior knee, and popliteal plexus blocks	201
Motor-sparing nerve blocks for hip surgery	202
Summary	202

Emergency Anesthesia in Resource-Limited Areas **209**

Seung Lee, Azuka Onye, and Asad Latif

Introduction	209
General considerations for working in resource-limited areas	210
Overall Considerations and Constraints in Resource-Limited Areas	210
Disaster Relief Efforts in Resource-Limited Areas	213
Role of the Anesthesia Provider Outside the Operating Room	214
Anesthetic technique and perioperative care	215
Preoperative Considerations in Emergency Anesthesia	215
Intraoperative Considerations in Emergency Anesthesia	217
Anesthetic Plan	219
Postoperative Considerations in Emergency Anesthesia	223
Summary	224
Disclosure	225

Anesthesia for Obstetric Disasters **229**

Kristen L. Fardelmann and Aymen Awad Alian

Maternal mortality	229
Cardiac arrest in pregnancy	230
Obstetric complications	231
Obstetric Hemorrhage	231
Amniotic Fluid Embolism/Anaphylactoid Syndrome of Pregnancy	236
Hypertensive Emergency in Pregnancy	237

HELLP Syndrome	241
Anesthesia complications	242
High Neuraxial Anesthesia Blockade	242
Local Anesthetic Systemic Toxicity	244
Difficult Airway	244
Disclosure	247

Anesthesia for the Patient with Severe Liver Failure **251**

Aidan Spring, Jagroop S. Saran, Sinead McCarthy, and
Stuart A. McCluskey

Introduction	251
Cause of liver disease	253
Risk stratification	254
Assessment and investigations	255
Preoptimization	257
Intraoperative management	258
Monitoring	258
Anesthetic Medications	258
Sedative-Hypnotics	258
Analgesics	259
Neuromuscular Blockade	259
Volatile Anesthetics	259
Coagulation	259
Postoperative Analgesia	259
Considerations for specific procedures	260
Cardiac Surgery	260
Trauma	261
Anesthesia for transhepatic portosystemic shunt and minor procedures	262
Abdominal surgery	262
Conflicts of Interest	263

The Future Directions of Research in Cardiac Anesthesiology **269**

Jessica Spence and C. David Mazer

Knowledge gaps that need to be addressed	270
Mitigating the Inflammatory Effects of Cardiopulmonary Bypass	270
Diagnosis and Management of Perioperative Myocardial Infarction after Cardiac Surgery	271
Neurologic Outcomes of Cardiac Surgery	272
Transfusion Strategies in Cardiac Surgery	274
Optimizing the Long-Term Outcomes of Patients after Valve Surgery	274
New approaches to research in cardiac anesthesia	275
Novel Analytical Techniques	276
Pragmatic Trials	277
Adaptive Trial Designs	279
Summary	280
Acknowledgments	280