# Contents

Contributors vii

Contributors to Lumb and Jones’ Veterinary Anesthesia and Analgesia, Fourth Edition viii

Preface xii

1 **Patient evaluation and risk management**
   William W. Muir, Steve C. Haskins, and Mark G. Papich 3

2 **Anesthetic physiology and pharmacology**

3 **Pain physiology, pharmacology, and management**
   Peter W. Hellyer, Sheila A. Robertson, Anna D. Fails, Leigh A. Lamont, Karol A. Mathews, Roman T. Skarda, Maria Glowaski, Dianne Dunning, and Duncan X. Lascelles 82

4 **Chronic pain management**
   Duncan X. Lascelles and James S. Gaynor 147

5 **Anesthesia equipment**
   Craig Mosley 158

6 **Patient monitoring**
   Steve C. Haskins 197

7 **Acid–base balance and fluid therapy**
   William W. Muir, Helio S. A. de Morais, and David C. Seeler 240

8 **Anesthesia management of dogs and cats**
   Richard M. Bednarski 274
9 Anesthesia and immobilization of small mammals 300
Paul A. Flecknell, Claire A. Richardson, Aleksandar Popovic, Rachael E. Carpenter, and David B. Brunson

10 Local anesthetics and regional analgesic techniques 326
Roman T. Skarda and William J. Tranquilli

11 Anesthesia for patients with cardiovascular disease 378
Tamara L. Grubb and Stephen A. Greene

12 Anesthesia for patients with respiratory disease and/or airway compromise 387
Tamara L. Grubb and Stephen A. Greene

13 Anesthesia for patients with neurological disease 400
Stephen A. Greene and Tamara L. Grubb

14 Anesthesia for small animal patients with renal disease 412
Stuart Clark-Price

15 Anesthesia for patients with liver disease 422
Fernando Garcia

16 Anesthesia for patients with gastrointestinal disease 434
Jennifer G. Adams

17 Anesthesia for patients with endocrine disorders 455
Stephen A. Greene and Tamara L. Grubb

18 Anesthetic considerations for special procedures 461

19 Anesthetic emergencies and accidents 509
A. Thomas Evans and Deborah V. Wilson

Index 528

This book has a companion website providing review questions, illustrations, and videos only available online at www.wiley.com/go/grimm.