

## Contents

<b>Contributors</b>	<i>xix</i>
<b>Preface</b>	<i>xxiii</i>
<b>Editor-in-Chief</b>	<i>xxv</i>

### Section 1 Overview 1

- 1.1 Overview of Pet-Specific Care 3**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 1.2 Providing a Lifetime of Care 9**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 1.3 Personalized Care Plans 15**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 1.4 Opportunities for Pet-Specific Care 23**  
*Nan Boss, DVM*
- 1.5 Feline-Friendly Care 27**  
*Jane Brunt, DVM*
- 1.6 Adapting to a New Normal 31**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

### Section 2 Concepts and Prospects 37

- 2.1 Evidence-Based Veterinary Medicine and Personal Bias 39**  
*Brennen McKenzie, MA, MSc, VMD*
- 2.2 The Role of Incremental Care 43**  
*David Haworth, DVM, PhD*
- 2.3 Prevalence and Incidence 47**  
*Samuel Stewart, DVM, DACVECC and Chand Khanna, DVM, PhD, DACVIM (Onc), DACVP (Hon)*

- 2.4 Checklists in Veterinary Practice 51**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 2.5 Virtual Care (Telehealth) 59**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 2.6 Generational Considerations 65**  
*Kurt A. Oster, MS, SPHR, SHRM-SCP*
- 2.7 Risk Assessment 69**  
*Nan Boss, DVM*
- 2.8 Risk Management 75**  
*Tara Harmon, APR*
- 2.9 Anticipated Costs of Pet Care 79**  
*Sarah Rumble*
- 2.10 Affordability of Veterinary Services 83**  
*Patricia Khuly, VMD, MBA*
- 2.11 Discounting in Veterinary Practice 87**  
*Mark J. McGaunn, CPA/PFS, CFP®*
- 2.12 Blockchain in Veterinary Medicine 91**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 2.13 Placebo and Nocebo 95**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 2.14 Benefits of the Human–Animal Bond 99**  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 2.15 Promoting the Human–Animal Bond 103**  
*Sarah Rumble*
- 2.16 Pain and Pain Management 107**  
*Mark E. Epstein, DVM, DABVP (Canine/Feline), CVPP*
- 2.17 Emergency Preparedness 113**  
*Lori Massin Teller, DVM, BS (Vet Sci), DABVP (Canine/Feline Practice)*
- 2.18 Population Control 117**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 2.19 One Health 121**  
*Donna L. Harris, DVM, MBA, MS(Strategic Foresight)*
- 2.20 Cancer Precision Medicine 125**  
*Anna Katogiritis, BSc, DVM and Chand Khanna, DVM, PhD, DACVIM (Onc), DACVP (Hon)*

- Section 3 Hereditary Considerations 129**
- 3.1 Genetic Basics 131**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.2 Modes of Inheritance 137**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.3 The Genetics of Disease 141**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.4 Predicting and Eliminating Disease Traits 147**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.5 Conformation Extremes and the Veterinary Team 153**  
*Emma Goodman Milne, BVSc, MRCVS*
- 3.6 Genetic Testing 157**  
*Jerold S. Bell, DVM*
- 3.7 Genetic Health Registries and Research Organizations 163**  
*Anita M. Oberbauer, PhD*
- 3.8 Genetic Counseling 169**  
*Jerold S. Bell, DVM*
- 3.9 Purebreds, Mixed-Breeds, and Hybrids 175**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.10 Advising Clients on Selecting an Appropriate Pet 179**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.11 Integrating Genotypic and Phenotypic Testing 183**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 3.12 Orthopedic Screening 189**  
*Jason C. Nicholas, BVETMED (Hons)*
- 3.13 Breed Predisposition 193**  
*Nan Boss, DVM*
- 3.14 Breed-Specific Variants in Laboratory Testing 199**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 3.15 Breed-Related Anesthetic Considerations 203**  
*Tamara Grubb, DVM, PhD, DACVAA*
- 3.16 Breed-Related Drug Sensitivities 209**  
*Patricia Dowling, DVM, MSc, DACVIM (LAIM), DACVCP*

**3.17 Breed-Related Nutritional Issues** 213  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*

**3.18 Breed-Related Eye Conditions** 217  
*D. J. Haeussler, Jr., BS, MS, DVM, DACVO*

**3.19 Mixed-Breed Considerations** 223  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

#### **Section 4 Nonhereditary Considerations** 227

**4.1 Canine and Feline Life Stages** 229  
*Sarah Rumble*

**4.2 Gender-Related Considerations** 237  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

**4.3 Prevention and Control of Infectious Diseases** 241  
*Krystle L. Reagan, DVM, PhD, DACVIM (SAIM) and Jane Sykes, BVSc, PhD, DACVIM (SAIM)*

**4.4 Preventing Infectious Diseases in the Small Animal Veterinary Hospital** 247  
*Krystle L. Reagan, DVM, PhD, DACVIM (SAIM) and Jane Sykes, BVSc, PhD, DACVIM (SAIM)*

**4.5 Prevention and Control of Parasites** 253  
*I. Craig Prior, BVSc, CVJ*

**4.6 Role of the Microbiome** 259  
*Natalie Stilwell, DVM, MS, PhD*

**4.7 Embracing Early Detection** 263  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

**4.8 Pet-Specific Relevance of Reference Intervals** 267  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*

**4.9 Periodontal Disease** 271  
*Heidi B. Lobprise, DVM, DAVDC and Jessica Johnson, DVM*

**4.10 Environmental Considerations** 277  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*

**4.11 Environmental Enrichment** 283  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*

**4.12 Homeowner Insurance Considerations** 287  
*Tara Harmon, APR*

#### **Section 5 Client Service Considerations** 291

**5.1 Pet-Specific Customer Service** 293  
*Nan Boss, DVM*

- 5.2 Meeting Client Needs** 299  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 5.3 What Clients Expect from the Veterinary Team** 303  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 5.4 The Changing Nature of Pet Owners** 307  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 5.5 Meeting the Needs of Pet Parents** 311  
*Amanda L. Donnelly, DVM, MBA*
- 5.6 Adoption Source Options** 315  
*Sarah Rumble*
- 5.7 Preadoption Counseling** 319  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*
- 5.8 The Biology of Marketing** 323  
*Robert Sanchez*
- 5.9 Dealing with Breeders** 327  
*Maria Inês Ferreira, DVM, MTB*
- 5.10 Discussing Pet-Specific Care** 331  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 5.11 Discussing Finances for Pet-Specific Care** 337  
*Brandon Hess, CVPM, CCFP*
- 5.12 Discussing Anesthetic Risk** 341  
*Tamara Grubb, DVM, PhD, DACVAA*
- 5.13 Improving Client Engagement Through Technology** 347  
*Caitlin DeWilde, BS, DVM*
- 5.14 Client Education Materials** 353  
*Peter Alberti, BSBA*
- 5.15 Client Appointment Scheduling** 357  
*Kurt A. Oster, MS, SPHR, SHRM-SCP*
- 5.16 Maintaining Client Contact Between Appointments** 361  
*Robert Sanchez*
- 5.17 Ensuring and Measuring Client Satisfaction** 365  
*Caitlin DeWilde, BS, DVM*
- 5.18 Lifetime Support – Pet Trusts and Wills** 371  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

**Section 6 Pet-Specific Considerations 375**

- 6.1 Normal Development Stages of Dogs and Cats 377**  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.2 How Animals Learn 383**  
*Alicea Howell, LVT, VTS (Behavior), KPA, CTP*
- 6.3 Managing Life Changes with Pets 387**  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.4 Creating a Pet-Specific User's Manual 391**  
*Peter Weinstein, DVM, MBA*
- 6.5 Opportunities and Challenges of Providing Services for Low-Income Clients 399**  
*David Haworth, DVM, PhD*
- 6.6 Fear Free® Concepts 403**  
*Marty Becker, DVM*
- 6.7 Cooperative Care 409**  
*Alicea Howell, LVT, VTS (Behavior), KPA, CTP*
- 6.8 Managing Routine Procedures to Minimize Problems 413**  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.9 Preventing Behavior Problems 417**  
*Kymerley C. McLeod, DVM*
- 6.10 Behavior Problems – Advice 421**  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.11 Treating Animals with Behavior Problems 425**  
*Kymerley C. McLeod, DVM*
- 6.12 New Puppy/Kitten Considerations 429**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 6.13 Delivering Feline-Friendly Care 433**  
*Kim Kendall, BVSc, MANZCVS (Cat Medicine and Animal Behaviour)*
- 6.14 Pain Prevention, Management, and Conditioning 439**  
*Robin Downing, DVM, MS, DAAPM, DACVSMR, CVPP, CCRP*
- 6.15 Approaching Obesity on a Pet-Specific Basis 445**  
*Ernie Ward, DVM, CVFT (Certified Veterinary Food Therapist)*
- 6.16 Assessing Blood Pressure as an Early Indicator of Disease 455**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 6.17 Senior Care 459**  
*Heidi B. Lobprise, DVM, DAVDC*

- 6.18 Aging Gracefully** 465  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.19 Problem Aging** 469  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 6.20 Quality of Life and End of Life Issues** 473  
*Mary Craig, DVM, MBA, CHPV*
- Section 7 Hospital Considerations** 477
- 7.1 Creating a Client-Centered Hospital** 479  
*Amanda L. Donnelly, DVM, MBA*
- 7.2 Managing the Pet-Specific Workplace** 483  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 7.3 Leading the Change Towards Pet-Specific Care** 489  
*Randy Hall*
- 7.4 Getting Informed Consent** 493  
*Betsy Choder, JD, MS*
- 7.5 Connecting with Clients Through Social Media** 497  
*Caitlin DeWilde, BS, DVM*
- 7.6 Privacy and Confidentiality** 505  
*Betsy Choder, JD, MS*
- 7.7 Puppy and Kitten Classes** 509  
*Jacqui Ley, BVSc (Hons), PhD, DECAWBM, FANZCVS (Veterinary Behaviour)*
- 7.8 Providing Care for Those Unable or Unwilling to Pay** 513  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 7.9 Using Practice Management Software to Personalize Care** 517  
*Peter Alberti, BSBA*
- 7.10 Analytics and Informatics** 521  
*Peter Alberti, BSBA*
- 7.11 Client Safety** 525  
*Saya Press, BVSc, MS, DACVECC*
- 7.12 Patient Safety** 529  
*Helen Ballantyne, PG Dip, BSc (Hons), RN, RVN*
- 7.13 Keeping Client Information Secure** 535  
*Peter Alberti, BSBA*
- 7.14 Premise Disinfection** 539  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*

**Section 8 Hospital Team Considerations 543**

- 8.1 Delivering Pet-Specific Care as a Team 545**  
*Jason C. Nicholas, BVETMED (Hons)*
- 8.2 Developing Staff Competencies 549**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.3 The Importance of Accountability in Pet-Specific Care 555**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.4 Alignment – The Key to Implementing Pet-Specific Care 559**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.5 How Important Is Emotional Intelligence? 563**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.6 Nursing Leadership 567**  
*Helen Ballantyne, PG Dip, BSc (Hons), RN, RVN*
- 8.7 Nursing Care Plans 573**  
*Helen Ballantyne, PG Dip, BSc (Hons), RN, RVN*
- 8.8 Care Bundles 579**  
*Helen Ballantyne, PG Dip, BSc (Hons), RN, RVN*
- 8.9 Procedure Manuals 585**  
*Kurt A. Oster, MS, SPHR, SHRM-SCP*
- 8.10 Patient and Procedure Logs 589**  
*Kurt A. Oster, MS, SPHR, SHRM-SCP*
- 8.11 Dental Charting 593**  
*Heidi B. Lobprise, DVM, DAVDC and Jessica Johnson, DVM*
- 8.12 Preventing Animal-Related Injuries 599**  
*Betsy Choder, JD, MS*
- 8.13 Hospice and Palliative Care 603**  
*Mary Craig, DVM, MBA, CHPV*
- 8.14 Appropriate Handling of Medical Errors 607**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 8.15 Delivering Information to Clients 611**  
*Brandon Hess, CVPM, CCFP*
- 8.16 Dealing with Compassion Fatigue and Burnout 615**  
*JoAnna Pendergrass, DVM*
- 8.17 Dealing with Compromise Fatigue 619**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

- 8.18 Team Strategies for Atopic Dermatitis 623**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.19 Team Strategies for Periodontal Disease 631**  
*Heidi B. Lobprise, DVM, DAVDC and Jessica Johnson, DVM*
- 8.20 Team Strategies for Osteoarthritis 637**  
*Mark E. Epstein, DVM, DABVP (Canine/Feline), CVPP*
- 8.21 Team Strategies for Pain Management 643**  
*Tamara Grubb, DVM, PhD, DACVAA*
- 8.22 Team Strategies for Feline Retroviral Diseases 649**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 8.23 Team Strategies for Recurrent Pyoderma 653**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.24 Team Strategies for Otitis Externa 659**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 8.25 Team Strategies for Weight Management 667**  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*
- 8.26 Team Strategies for Glaucoma 673**  
*D. J. Haeussler, Jr., BS, MS, DVM, DACVO*
- 8.27 Team Strategies for Diabetes Mellitus 679**  
*Ryane E. Englar, DVM, DABVP (Canine and Feline Practice)*
- 8.28 Team Strategies for Cancer 685**  
*Samuel Stewart, DVM, DACVECC and Chand Khanna, DVM, PhD, DACVIM (Onc), DACVP (Hon)*
- Section 9 Medical Management Considerations 691**
- 9.1 Medical Records 693**  
*Cindy Trice, DVM*
- 9.2 Asking Good Questions 697**  
*Amanda L. Donnelly, DVM, MBA*
- 9.3 Guidelines 701**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 9.4 Standards of Care 711**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 9.5 A Different Perspective on Standard of Care 715**  
*Gary Block, DVM, MS, DACVIM*
- 9.6 Care Pathways 719**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

- 9.7 Continuum of Care and Convergence Schedules 723**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 9.8 Ensuring Consistency of Care 727**  
*I. Craig Prior, BVSc, CVJ*
- 9.9 Continuity of Care 731**  
*Kurt A. Oster, MS, SPHR, SHRM-SCP*
- 9.10 Dispensing and Prescribing 735**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 9.11 Vaccination 739**  
*Lori Massin Teller, DVM, BS (Vet Sci), DABVP (Canine/Feline Practice)*
- 9.12 Judicious Use of Antimicrobials 745**  
*Patricia Dowling, DVM, MSc, DACVIM (LAIM), DACVCP*
- 9.13 Preanesthetic Considerations 749**  
*Tamara Grubb, DVM, PhD, DACVAA*
- 9.14 New Treatment Modalities 755**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 9.15 Nutritional Counseling 759**  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*
- 9.16 The Role of Nutritional Supplements in Pet-Specific Care 763**  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*
- 9.17 Improving Compliance and Adherence with Pet-Specific Care 767**  
*I. Craig Prior, BVSc, CVJ*
- Section 10 Practice Management Considerations 773**
- 10.1 Strategies for Success with Pet-Specific Care 775**  
*Jason C. Nicholas, BVETMED (Hons)*
- 10.2 The Importance of Practice Differentiation 779**  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 10.3 Pet-Specific Outreach 783**  
*Linda Wasche, MBA, MA*
- 10.4 Client and Patient Segmentation 787**  
*Linda Wasche, MBA, MA*
- 10.5 Early Detection Campaigns 793**  
*Linda Wasche, MBA, MA*

- 10.6 Target Marketing and Targeted Client Outreach** 797  
*Linda Wasche, MBA, MA*
- 10.7 Breed-Specific Marketing** 801  
*Peter Weinstein, DVM, MBA*
- 10.8 Using Practice Data as a Credibility-Boosting Tool** 807  
*Linda Wasche, MBA, MA*
- 10.9 Laboratory Considerations** 811  
*Kara M. Burns, MS, MEd, LVT, VTS (Nutrition)*
- 10.10 Making Referrals Work** 815  
*Suzanne Russo, DVM, MS*
- 10.11 Financial Benefits of Pet-Specific Care** 819  
*Michael R. Dicks*
- 10.12 Dashboards and Key Performance Indicators** 825  
*Mark J. McGaunn, CPA/PFS, CFP®*
- 10.13 Approach to Pricing** 831  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 10.14 Providing Cost-Effective Care for Those in Need** 835  
*Gary Block, DVM, MS, DACVIM*
- 10.15 Putting Price into Perspective** 839  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 10.16 Pet Health Insurance** 843  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 10.17 Payment and Wellness Plans** 849  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 10.18 Financing Veterinary Care** 853  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- Section 11 Appendices** 857
- 11.1 Finding More Information on Pet-Specific Care Topics** 859  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 11.2 Abbreviations** 863  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*
- 11.3 Heritable Health Conditions – By Disease** 869  
*Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS*

<b>11.4 Heritable Health Conditions by Breed</b>	951
<i>Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS</i>	
<b>11.5 Life Planning by Breed</b>	987
<i>Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS</i>	
<b>11.6 Glossary</b>	1003
<i>Lowell Ackerman, DVM, DACVD, MBA, MPA, CVA, MRCVS</i>	
<b>Index</b>	1051