Table of contents

About the Author xvii

Foreword xix

Preface xxi

Acknowledgements xxiii

1 The Dental Operatory 1

Space 1

Electricity, Water, and Drainage 1

Ergonomics 2

The Operatory 2

Powered Dental Delivery Systems 6

Storage 11

Lighting 11

Dental Loupes (Telescopes) 13

Radiography 15

General Anesthesia 16

Patient Monitoring Devices 17

Regional Analgesia 26

Technique 28

Further Reading 32

2 Equipment, Instruments, and Materials for Operative Dentistry 37

Equipment and Material Recommendations Based on the Level of Dental Care 37

Diagnostics for Basic Dentistry 37

Dental Scaling, Irrigation and Polishing Equipment, Instruments, and Techniques 40

Dental Polishing Equipment and Materials 47

Extraction Instruments and Materials 50

Dental Handpieces 56

Maintenance of Dental Equipment 66

Homecare Products to Reduce the Accumulation of Plaque and Tartar (Calculus) 67

Other Homecare Products, Which May Decrease the Accumulation of Plaque and/or Tartar When Used Properly 68

Equipment and Materials for Advanced Dental Care 69

Obturating the Canal 72

College-Tipped Pliers to Handle the Paper and Gutta Percha Points 73

Restorative Materials Used in Advanced Dental Procedures 75

Advanced Periodontal and Oral Surgery 75

Lasers 75

Orthodontic Equipment and Materials Used in Advanced Dental Procedures 79

Orthodontic Buttons and Masel Chain Elastics 80

Further Reading 83

3 Oral Anatomy for the General Practitioner 87

The Oral Cavity 87

Mucosa 87

Muscles 87

Tongue 87

Innervation of the Oral Cavity 89

Blood Supply and Lymphatic Drainage 90

Salivary Glands 90

Periodontium 90

Cranium 95

Facium 95

Maxillae and Mandibles 95

Temporomandibular Joint 100

Teeth 100

Further Reading 112

4 Dental Radiography 113

Incorporating Dental Radiography into General Practice 113

Radiation Safety 113

Radiograph Equipment 113

Positioning 116

Radiograph Image Troubleshooting 128

Radiograph Interpretation 133

Periodontal Disease 137

Endodontic Disease 144

External Root Resorption 149

Further Reading 159

5 Charting 163

Two-/Four-Handed Charting 163

Step-By-Step Charting 163

Periodontal Indices 191

Dental Explorer 192

Furcation Disease Charting 194

Bleeding on Probing 194

Gingivitis Index 194

Tooth Mobility 194

Crown Pathology 198

Charting Abbreviations 212

Therapy Abbreviations 217

Further Reading 218

6 The Comprehensive Oral Prevention, Assessment, and Treatment Visit 221

Comprehensive Oral Prevention, Assessment, and Treatment (COPAT) 221

Case Volume 222

Workflow 222

Basic Treatment Options in Companion Animal Dentistry 227

Plaque and Calculus Prevention 230

Efficacy of Homecare Products 231

The Veterinary Oral Health Council 231

Efficacy Through Mechanical Action 232

Efficacy Through Nonmechanical Action 235

Efficacy Through Mechanical plus Nonmechanical Actions 236

Safety of Homecare Products 236

Gastrointestinal Inflammation 237

Safety Against Tooth Fracture 237

Scheduling the Next Professional Oral Hygiene Visit 237

Further Reading 238

7 Oropharyngeal Inflammation 243

Periodontal Diseases 243

Clinical Periodontal Diseases 245

Furcation Disease 259

Tooth Mobility 259

Periodontal Regeneration 264

Guided Tissue Regeneration 268

Mucositis – Inflammation of the Oral Mucosa 268

Stomatitis 273

Anti-Inflammatory Medication 276

Surgical Management of FCGS 277

Technique for Placement of Esophagostomy Feeding Tube in the Anesthetized Cat 278

Flap Design, Procedure, and Closure 279

Mandibular Canine Extraction Technique 284

Hemisection and Restoration 286

Feline Immunodeficiency Virus (FIV)-positive Cats with Feline Chronic Gingivitis Stomatitis 295

Further Reading 297

8 Tooth Resorption 305

Prevalence 305

Etiology 305

Terminology/Classification 305

Classification by Anatomical Location – Internal and External Resorption 306

Inflammatory External Resorption 306

Classification by Radiographic Appearance (Types) 309

Clinical Signs 310

Clinical Examination Findings 310

Radiographic Findings 311

Treatment of Tooth Resorption 313

Restoration 314

Monitoring Without Immediate Care 315

Crown/Root Atomization 315

Tooth Extraction 315

Crown Amputation with Intentional Partial Root Retention Followed by Gingival Closure 316

Further Reading 319

9 Oral Trauma 323

Anatomy and Physiology 323

Crown Wear – Abrasion and Attrition 323

The Traumatized Tooth 323

Endodontic Therapy 327

Age of the Patient 331

Materials for Endodontic Therapy 331

Ethylenediaminetetraacetic Acid (EDTA) 334

Instruments for Endodontic Therapy 334

Spatulas 342

Fundamental Endodontic Procedures 342

Standard (Conventional) Root Canal Therapy 344

Rotary Debridement 349

Crown Restoration 351

Oral Cavity Trauma 353

Principles of Jaw Fracture Repair 361

Treatment Planning and Options 361

Further Reading 365

10 Oral Masses 367

Identification and Staging of Oral Tumors 367

World Health Organization (WHO) Clinical Staging of Tumors of the Oral Cavity – Primary Tumor–Regional Nodes–Metastasis (TNM) System 367

Neoplasia Nomenclature 368

Tissue Sampling 369

Surgical Options to Treat Neoplasia 369

General Overview of Tumor Surgery 369

Benign Neoplasia 371

Osteomyelitis 381

Odontoma 381

Papilloma 381

Eosinophilic Granuloma Complex 381

Peripheral Odontogenic Fibroma 383

Amyloid-Producing Odontogenic Tumor 388

Traumatic Granulomas 388

Feline Pyogenic Granuloma 391

Oral Malignancy 391

Squamous Cell Carcinoma 394

Salivary Gland Pathology 407

Further Reading 416

11 Occlusal Disorders, Extra Teeth, and Missing Teeth 423

Angle Classification 423

Malocclusion – Dental and Skeletal 426

Skeletal Malocclusion 429

Ethics of Performing Veterinary Orthodontic Care 435

Interceptive Orthodontics 435

Extraction of the Malpositioned Tooth 439

Crown Reduction, Vital Pulp Therapy, and Tooth Restoration 441

Moving Teeth 441

Types of Forces Used to Move Teeth 441

Instrumentation for Orthodontic Care 445

Technique for Bracket Placement, Light Chemical Cementation, and Force Activation 446

Orthodontic Appliances 446

The Following are Steps of Orthodontic Therapy Using Appliances 446

Materials and Methods to Create a Dental Study Model 448

Obtaining the Impression 448

Creating Arch Impressions Using Alginate 448

Pouring the Stone Model 450

Water: Powder Ratio 450

Follow These Steps to Mix and Pour Stone 450

The Following are Steps to Pour the Stone Mixture onto the Impression 450

Preparing a Base for Each Cast 451

To Separate the Cast from the Alginate Impression 451

Trimming the Cast 452

Lab Instructions and Shipping 452

Inclined Planes 452

Further Reading 456

Glossary 459

Index 475