Companion website

This book is accompanied by a companion website, accessible at:

www.wiley.com/go/lobprise

The website includes Client Education Handouts that can be downloaded, customized, and given to clients.
Blackwell's Five-Minute Veterinary Consult
Clinical Companion

Small Animal Dentistry

Second Edition

Heidi B. Lobprise, DVM, DAVDC
Senior Technical Manager
Virbac Animal Health
Fort Worth, Texas

A John Wiley & Sons, Inc., Publication
To Robert B. Wiggs,
who is greatly missed, and is completely credited (or to be blamed)
for getting me interested in the “wonderful world of dentistry.”
# Contents

*Contributors* .......................................................... xi
*Preface* ................................................................ xiv
*Acknowledgments* .......................................................... xvii

## Section I Diagnostics

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oral Exam and Charting</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Periodontal Probing</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>Transillumination</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>Intraoral Radiology</td>
<td>28</td>
</tr>
</tbody>
</table>

## Section II Techniques

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Complete Dental Cleaning</td>
<td>61</td>
</tr>
<tr>
<td>6</td>
<td>Root Planing: Periodontal Pocket Therapy</td>
<td>69</td>
</tr>
<tr>
<td>7</td>
<td>Gingival Flaps</td>
<td>79</td>
</tr>
<tr>
<td>8</td>
<td>Extraction Technique</td>
<td>95</td>
</tr>
<tr>
<td>9</td>
<td>Oral Pain Management</td>
<td>115</td>
</tr>
</tbody>
</table>

## Section III The Practice of Dentistry

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>The Business of Dentistry</td>
<td>125</td>
</tr>
<tr>
<td>11</td>
<td>Technicians and Dentistry</td>
<td>133</td>
</tr>
</tbody>
</table>

## Section IV Oral/Dental Diseases (Developmental Oral/Dental Problems)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Persistent (Retained) Deciduous Teeth</td>
<td>143</td>
</tr>
<tr>
<td>13</td>
<td>Craniomandibular Osteopathy</td>
<td>148</td>
</tr>
</tbody>
</table>
Chapter 14: Enamel Hypocalcification ........................................ 152
Chapter 15: Eruption Disruption/Abnormalities ...................... 157
Chapter 16: Abnormal Number of Teeth (Decreased) ............ 163
Chapter 17: Abnormal Number of Teeth (Increased) .......... 168
Chapter 18: Abnormal Tooth Formation/Structure .............. 173
Chapter 19: Dentigerous Cyst ............................................. 178
Chapter 20: Tight Lip Syndrome ........................................ 183
Chapter 21: Palatal Defects (Congenital) ........................... 186
Chapter 22: Bird Tongue (Microglossia) .............................. 192
Chapter 23: Malocclusions of Teeth ................................. 195

Section V: Acquired Oral/Dental Diseases (Periodontal Problems)

Chapter 24: Halitosis .................................................... 207
Chapter 25: Periodontal Disease: Gingivitis ....................... 211
Chapter 26: Periodontal Disease: Periodontitis .................. 216
Chapter 27: Gingival Hyperplasia .................................. 224
Chapter 28: Oroonasal Fistula ....................................... 231
Chapter 29: Stomatitis .................................................. 237
Chapter 30: Oral Ulceration and Chronic Ulcerative Paradental Stomatitis .................................................. 243

Section VI: Enamel and Dentin Problems

Chapter 31: Discolored Tooth/Teeth ................................. 251
Chapter 32: Dental Caries (Cavities) ............................... 258
Chapter 33: Attrition/Abrasion/Wear of Teeth .................. 271

Section VII: Endodontic Disease

Chapter 34: Tooth Fracture ............................................. 279
Chapter 35: Tooth Root Abscess (Apical Abscess) ............ 288
Chapter 36: Pulpitis ....................................................... 295

Section VIII: Neoplasia

Chapter 37: Epulis ......................................................... 303
Chapter 38: Melanocytic Tumors (Oral) .......................... 310
### CONTENTS

#### Chapter 39
Fibrosarcoma ........................................... 314

#### Chapter 40
Squamous Cell Carcinoma (Gingiva) ..................... 318

#### Chapter 41
Squamous Cell Carcinoma (Tongue) ..................... 322

#### Chapter 42
Squamous Cell Carcinoma (Tonsil) .................... 326

#### Chapter 43
Odontoma ................................................. 330

#### Chapter 44
Tumors of Lesser Prevalence ............................. 336

#### Chapter 45
Papillomatosis (Oral) .................................. 341

#### Section IX: Trauma

#### Chapter 46
Maxillary and Mandibular Fractures ..................... 347

#### Chapter 47
Temporomandibular Joint: Dislocation/Luxation/Intermittent Open Mouth Locking ..................... 358

#### Chapter 48
Tooth Luxation or Avulsion ................................ 363

#### Section X: Disorders Prevalent in Felines

#### Chapter 49
Tooth Resorption: Feline ................................ 369

#### Chapter 50
Caudal Stomatitis ....................................... 380

#### Chapter 51
Chronic Osteitis/Alveolitis ................................ 384

#### Chapter 52
Oral Manifestations of Feline Infectious Diseases .... 389

#### Section XI: Salivary and Other Special Problems

#### Chapter 53
Salivary Mucocele (Sialocele) .......................... 397

#### Chapter 54
Sialolith ..................................................... 402

#### Chapter 55
Salivary Gland Adenocarcinoma ......................... 405

#### Chapter 56
Masticatory Muscle Myositis ............................ 408

#### Chapter 57
Trigeminal Neuritis (Idiopathic) ......................... 412

#### Chapter 58
Pemphigus Vulgaris ...................................... 415

#### Chapter 59
Eosinophilic Granuloma Complex ....................... 420

#### Section XII: Exotic Pets

#### Chapter 60
Small Mammal Dentistry ................................ 429
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Contributors

James Mudie George Anthony, DVM, BSc (Agr), MRCVS, FAVD, DAVDC, DEVDC, PAg
Referral Dentist
Central Animal Hospital
Saskatoon, Saskatchewan, Canada
Redbank Veterinary Hospital
Tinton Falls, New Jersey

Larry Baker, DVM, FAVD, DAVDC
Northgate Veterinary Dentistry
Decatur, Illinois

Donald E. Beebe, DVM, DAVDC
Apnex Dog and Cat Dentistry, P.C.
Veterinary Referral Center of Colorado
Englewood, Colorado

Jan Bellows, DVM, DAVDC, DABVP
All Pets Dental
Weston, Florida

Susan Berryhill, BS, RVT, VTS (Dentistry), CCRA
Senior Veterinary Nursing Specialist
Pfizer Animal Health
Branson, Missouri

Bonnie Bloom, DVM, FAVD
I-20 Animal Medical Center
Irving, Texas

Randi Brannan, DVM, FAVD, DAVDC
Pfizer Animal Health
Portland, Oregon
CONTRIBUTORS

William Gengler, DVM, DAVDC
Animal Dentistry and Oral Surgery
Madison, Wisconsin
Denton, Texas

Cecelia Gorrel, BSc, MA, DDS, Vet MB, MRCVS, Hon FAVD, DEVDC, European and RCVS- Recognised Specialist in Veterinary Dentistry
Veterinary Oral Health Consultancy
Hampshire, United Kingdom

Fraser A. Hale, DVM, FAVD, DAVDC
Owner
Hale Veterinary Clinic
Guelph, Ontario
Canada

Barron P. Hall, DVM, DAVDC, FAVD
Owner
Animal Dental Clinic
Vienna, Virginia

Thomas J. Klein, DVM
East Hilliard Veterinary Dental Services
Hillard, Ohio
Adjunct Professor of Veterinary Dentistry
The Ohio State University
Columbus, Ohio

Matthew S. Lemmons, DVM, DAVDC
Circle City Veterinary Specialty and Emergency Hospital
Carmel, Indiana

Annie Mills, LVT, VTS (Dentistry)
Florida Veterinary Dentistry and Oral Surgery
Punta Gorda, Florida

R. Michael Peak, DVM, DAVDC
Tampa Bay Veterinary Specialists
Largo, Florida
Alexander M. Reiter, Dipl. Tzt., Dr. med. vet., DAVDC, EVDC
Associate Professor of Dentistry and Oral Surgery
Chief of the Dentistry and Oral Surgery Service
Department of Clinical Studies
School of Veterinary Medicine
University of Pennsylvania
Philadelphia, Pennsylvania

Sunny L. Ruth, DVM
Richardson Veterinary Clinic
Richardson, Texas

Christopher J. Snyder, DVM, DAVDC
Clinical Assistant Professor
Veterinary Dentistry and Oral Surgery
School of Veterinary Medicine
University of Wisconsin
Madison, Wisconsin
The *Five-Minute Veterinary Consult Clinical Companion: Small Animal Dentistry* is designed as a quick reference text for the clinician and student of veterinary medicine. Dentistry is a field in which in-depth knowledge, concepts of advanced theory from human dentistry, and evidence-based data provide a strong foundation for the day-to-day practical tactics the veterinary team must implement. Other resources can provide the more profound details of the foundation; this text is meant to be kept close at hand, to be brought out during procedures to guide the steps of the veterinarian and technician.

The first edition included topics adapted from the *Five-Minute Veterinary Consult: Canine and Feline*, for which I served as the dentistry section editor (for the last three editions, following in the footsteps of Dr. Jan Bellows). All of the dentistry chapters from the latest edition (fifth) of the *Five-Minute Consult* are included, plus pertinent chapters from other sections in that text. A number of other topics were added from the first edition to include conditions frequently encountered in dentistry to expand those sections, as well as completely new sections in diagnostics and techniques, with a large selection of images to guide the practitioner through the steps.

This edition has updated all of the topics chapters, including a more extensive version of the “Small Mammal” topic to include other species such as ferrets and hedgehogs. The “Oral Exam and Charting” topic received extensive revisions, and “Oral Pain Management” was added to the “Techniques” section. A new section—“The Practice of Dentistry”—discusses the business of dentistry and the role of technicians. The resource of images and definitions from the American Veterinary Dental College Nomenclature webpage supplements the text in many topics. A more in-depth discussion of home care—from instructions to products—is also included.

The *Clinical Companion* is organized into 12 sections:

- **Section I, “Diagnostics,”** includes chapters on techniques for oral examination and charting; periodontal probing to assess the extent of periodontal disease; transillumination of teeth to determine vitality; and intraoral radiology, including extensive images for positioning.
- **Section II, “Techniques,”** includes extensive images for step-by-step instruction of a complete dental cleaning; root planning and periodontal pocket therapy; the use of gingival flaps—for periodontal therapy and extractions; extraction techniques, including sectioning, elevation, and closure; and the newest topic of oral pain management discussing appropriate protocols and demonstrating regional and local blocks.
• Section III, “The Practice of Dentistry,” includes reviewing some of the business aspects of dentistry, including how to implement goals in your practice, and the role of the technician, one of the most important team members for this field.
• Section IV, “Developmental Oral/Dental Problems,” reviews issues from persistent deciduous teeth, abnormalities in the number, structure and placement of teeth; lip, palatal and tongue defects; and malocclusions.
• Section V, “Periodontal Problems,” starts looking at acquired oral/dental diseases, of which periodontal disease in the most common. The stages of periodontal disease are covered, as are complications of periodontal disease such as gingival hyperplasia, oronasal fistulation, and ulcerative complications (stomatitis, chronic ulcerative paradental stomatitis [CUPS]).
• Section VI, “Enamel and Dentin Problems,” discusses the acquired enamel defect issues, from discoloration and dental caries to wear of teeth.
• Section VII, “Endodontic Disease,” includes topics of tooth fracture, apical abscess, and pulpitis.
• Section VIII, “Neoplasia,” covers topics from the Five-Minute fifth edition (melanocytic tumors, squamous cell carcinoma, fibrosarcoma, and papilloma) with dental-focused topics (epulis, odontoma), as well as a review of tumors of lesser prevalence, including a review in tabular format.
• Section IX, “Trauma,” includes discussion on accurate diagnosis and assessment, as well as treatment of conditions of maxillary and mandibular fractures, temporomandibular joint (TMJ) disorders, and tooth luxation or avulsion.
• Section X, “Disorders Prevalent in Felines,” focuses on conditions prevalent in, yet not restricted to, cats: tooth resorption, (caudal) stomatitis, chronic osteitis/alveolitis in older cats, and oral manifestations of feline infectious diseases (garnered from fifth edition topics).
• Section XI, “Salivary and Other Special Problems,” deals with other oral diseases not directly related to teeth, from salivary mucocele, stones, and tumors to myositis, neuritis, and inflammatory issues such as pemphigus and eosinophilic granuloma complex.
• Section XII, “Exotic Pets,” ends with a revised topic of “Small Mammal Dentistry” with a more complete coverage of rodents and lagomorphs, but including issues facing ferrets, hedgehogs, and sugar gliders.
• Appendix A features a statement from the American Veterinary Dental College regarding the use of antibiotics in veterinary dentistry.
• Appendix B is the complete compilation of nomenclature definitions and images found throughout the text. These resources are used with permission from the American Veterinary Dental College, and are available for general use on www.avdc.org.
• Appendix C is a review of a wide variety of home care options, from an explanation of the basics of mechanisms of action to how to implement instructions and compliance support in your practice, to a table of many current home care products.
• Handouts include customizable instruction sheets for clients on topics such as Oral Dental Exam Check List, Periodontal Disease, Resorptive Lesions, Damaged Teeth, and Home Care.
I would like to thank all the contributors to this and past editions, both my dental colleagues and those that agreed to have their topics included in this book. Thanks also to Drs. Frank Smith and Larry Tilley for continuing to support the Five-Minute Veterinary Consult and the multiple Clinical Companions, and the staff of Wiley-Blackwell for their patience and persistence in supporting this publication. And of course, I have to thank my loving spouse, Joe, for putting up with all my projects!

Heidi B. Lobprise
Portions of chapters in this book have been provided by material contributed to Blackwell’s Five-Minute Veterinary Consult: Canine and Feline by the following authors:

Dennis B. Bailey
Margaret (Peggy) C. Barr
Steven M. Cogar
Spencer A. Johnston
Thomas Klein
Susanne K. Lauer
Mylene-Kim Leclerc
Louis-Philippe de Lorimier
Elizabeth R. May
Anthony J. Mutsaers
Karen Helton Rhodes
Fred W. Scott
G. Diane Shelton
Alexander H. Werner
Jackie M. Wypij
Blackwell’s Five-Minute Veterinary Consult
Clinical Companion

Small Animal Dentistry

Second Edition
Diagnostics
INDICATIONS

- “Every mouth, every time”: a complete oral examination should be performed whenever possible to detect lesions as early as possible.
- Make it a part of puppy and kitten exams to start a lifetime of oral care (Fig. 1-1).
  - Deciduous occlusion
  - Broken or damaged teeth
  - Proper eruption sequence
  - Brushing/home care instruction
- Continue with oral examinations at each visit, making oral care a cornerstone of a wellness program.
- An alert oral exam can give a quick overview of oral conditions in most patients.
- A complete oral examination can only be performed under general anesthesia and will include physical examination of the oral and dental structures, periodontal probing, transillumination, and intraoral radiography.

EQUIPMENT

Alert Exam

- Adequate but gentle restraint
- Good lighting
- Charts

Complete Exam

- General anesthetics components, including monitoring
- Good lighting
- Mouth gags for accessibility (use particular caution with spring-loaded mouth gags)—they can damage teeth or strain the temporomandibular joint unnecessarily
- Magnification (usually needed)
Figure 1-1 Perform an oral exam on every patient possible—from early ages on.
Alert Examination

- Use great caution with anxious, aggressive, or painful animals; examination may have to be accomplished under sedation (carefully) or when the patient is anesthetized.
- With the patient gently restrained on the table, first observe the external structures of the head for any irregularities—symmetry, swelling (Fig. 1-3), discoloration, discharge; note any malodor (halitosis).
- Gently hold the muzzle closed with your nondominant hand, and lift up the lips to observe the buccal/labial surfaces of the teeth. Note and record the following:
  - Accumulations of plaque and/or calculus (Fig. 1-4)
  - Missing teeth (circle on chart)
  - Worn (AT for attrition), chipped, broken (FX for fractured), or discolored teeth
Figure 1-3 Before looking inside the mouth, examine the entire head for abnormalities, such as the generalized swelling of the muzzle of this dog.

Figure 1-4 During the alert exam, many patients will let you examine the buccal surfaces of the teeth, and the extent of calculus and plaque can be estimated (significant accumulations in this patient).
• Gingival inflammation/overgrowth
  □ Red or bleeding gingiva
  □ Gingival hyperplasia
  □ Possible presence of tooth resorption (TR)—feline and canine
• Position of teeth (occlusion)
  □ Incisors should be in “scissor bite” (Fig. 1-5)
  □ Lower canine should be spaced equally between upper third incisor and upper canine
  □ Premolars should interdigitate in a “pinking shear” configuration
  □ Individual teeth in proper position
• Oral soft tissues
  □ Note if any unusual masses are present; press up in the intermandibular space to lift tongue to view sublingual area (Fig. 1-6)

**Complete Examination under General Anesthesia**

- Reevaluate occlusion before intubation
- Initial identification of significant lesions to help treatment planning and inform owner of unexpected problems (“red flag check”)
Sometimes further evaluation of the tongue is done under anesthesia: this patient exhibits the condition known as “gum chewers—sublingual,” where the teeth have chronically traumatized the sublingual mucosa.

- Continue more extensive evaluation of indices (Table 1-1)
  - Plaque index
  - Calculus index (Fig. 1-7)
  - Gingival index
- Missing teeth: radiograph for embedded or unerupted teeth (see Chapter 16)
- Supernumerary teeth: evaluate for potential interference, crowding (see Chapter 17)
- Abnormal teeth: aberration in size, structure; evaluate for vitality (see Chapter 18)
- Worn, chipped, or fractured teeth; discolored teeth (see Chapters 31, 33, and 34)
  - Evaluate surface and determine if canal is exposed (use periodontal explorer) (Fig. 1-8)
  - Transilluminate to assess pulp vitality (see Chapter 3)
  - Radiograph to evaluate periapical bone, canal size
- Mobile teeth: assess periodontal status and/or root fractures (Table 1-2)
- Oral soft tissues
  - Oral masses (Fig. 1-9)
  - Ulceration, depigmentation
- Periodontal probing (see Chapter 2)
- Intraoral radiographs (see Chapter 4)