VOLUME I

SECTION I
Clinical Manifestations of Disease

General
1 The Physical Examination of the Dog and Cat ........................................ 2
   Stephen J. Ettinger
2 Hyperthermia and Fever of Unknown Origin ..................................... 9
   James B. Miller
3 Hypothermia ....................................................................................... 14
   Polly M. Taylor
4 Pain Identification ............................................................................. 16
   Peter W. Hallyer
5 Pain Management ............................................................................ 22
   Steven C. Budsberg
6 Syncope ........................................................................................... 24
   Sandra L. Minors
7 Weakness .......................................................................................... 28
   Rhonda L. Schulman

Skin and Subcutaneous
8 The Skin as a Sensor of Internal Medical Disorders ........................... 31
   Sandra R. Merchant
9 Alopecia .............................................................................................. 34
   Dominique Heriquet
10 Pruritus .............................................................................................. 38
    Peter J. Ihrike
11 Cutaneous and Subcutaneous Lumps, Bumps, and Masses .................. 43
    Didier N. Carliotti
12 Erosions and Ulcerations ................................................................... 46
    Ian S. Mason
13 Pustules and Papules .......................................................................... 51
    Edmund J. Rosser, Jr.
14 Scaling and Crusting Dermatoses ..................................................... 55
    Kingsa Gortel, Jonathan D. Plant
15 Changes in Pigmentation .................................................................... 60
    Zaineb Alhaihari
16 Fleas, Flea Allergy, and Flea Control ............................................. 63
    Candace A. Sousa

Physique
20 Obesity .............................................................................................. 76
    Rebecca L. Remillard
21 Cachexia ............................................................................................ 78
    Thomas Schermerhorn
22 Failure to Grow ................................................................................ 80
    Sherri L. Ihle
23 Swollen Joints and Lameness ............................................................ 83
    Richard E. Goldstein
24 Body Odors ....................................................................................... 88
    Karen A. Morillo
25 Ocular Manifestations of Systemic Disease ...................................... 92
    David J. Maggs
26 Acute Vision Loss in Small Animals ................................................. 96
    Teresa R. Tucci Prosek

Urogenital
27 Vaginal-Vulvar and Preputial Discharge ......................................... 98
    Claudia J. Baldwin
28 Polyuria and Polydipsia ...................................................................... 102
    Edward C. Feldman
29 Micturition Disorders .......................................................................... 105
    Mary Anna Labato
30 Urinary Incontinence ........................................................................ 109
    S. Dru Forrester
31 Discolored Urine ................................................................................ 112
    Joseph W. Bartges
32 Proteinuria ........................................................................................ 114
    Gregory F. Grauer

Gastrointestinal
33 Anorexia ............................................................................................. 117
    John P. Hoover, William E. Monroe
34 Polyphagia ........................................................................................ 120
    Ellen N. Behrend
## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>Ptyalism</td>
</tr>
<tr>
<td></td>
<td>Sandra Manfra Marretta</td>
</tr>
<tr>
<td>36</td>
<td>Gagging</td>
</tr>
<tr>
<td></td>
<td>William Gengler</td>
</tr>
<tr>
<td>37</td>
<td>Dysphagia and Regurgitation</td>
</tr>
<tr>
<td></td>
<td>Emilie Fleming</td>
</tr>
<tr>
<td>38</td>
<td>Vomiting</td>
</tr>
<tr>
<td></td>
<td>David C. Tweedt</td>
</tr>
<tr>
<td>39</td>
<td>Diarrhea</td>
</tr>
<tr>
<td></td>
<td>Jörg M. Steiner</td>
</tr>
<tr>
<td>40</td>
<td>Melena and Hematochezia</td>
</tr>
<tr>
<td></td>
<td>Karen M. Kelly</td>
</tr>
<tr>
<td>41</td>
<td>Constipation, Tenesmus, Dyschezia, and Fecal Incontinence</td>
</tr>
<tr>
<td></td>
<td>Kenneth R. Harkin</td>
</tr>
<tr>
<td>42</td>
<td>Flatulence</td>
</tr>
<tr>
<td></td>
<td>Michael E. Mattz</td>
</tr>
<tr>
<td>43</td>
<td>Abdominal Distention, Ascites, and Peritonitis</td>
</tr>
<tr>
<td></td>
<td>Stephen A. Krath</td>
</tr>
</tbody>
</table>

### Neurologic

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Neurologic Manifestations of Systemic Disease</td>
</tr>
<tr>
<td></td>
<td>Karen L. Kline</td>
</tr>
<tr>
<td>45</td>
<td>Tremor Syndromes</td>
</tr>
<tr>
<td></td>
<td>Dominik Faissler</td>
</tr>
<tr>
<td>46</td>
<td>Ataxia, Paresis, and Paralysis</td>
</tr>
<tr>
<td></td>
<td>Donald C. Levesque</td>
</tr>
<tr>
<td>47</td>
<td>Altered States of Consciousness: Stupor and Coma</td>
</tr>
<tr>
<td></td>
<td>Karen L. Kline</td>
</tr>
<tr>
<td>48</td>
<td>Seizures</td>
</tr>
<tr>
<td></td>
<td>Andriè D. Quesnel</td>
</tr>
<tr>
<td>49</td>
<td>Deficits of Function Due to Peripheral Cranial Neuropathies</td>
</tr>
<tr>
<td></td>
<td>Vince Pedroia</td>
</tr>
<tr>
<td>50</td>
<td>Sleep Disorders</td>
</tr>
<tr>
<td></td>
<td>Joan C. Hendricks</td>
</tr>
<tr>
<td>51</td>
<td>Cognitive Dysfunction in Aged Dogs</td>
</tr>
<tr>
<td></td>
<td>Elizabeth Head, Gary M. Landsberg</td>
</tr>
<tr>
<td>52</td>
<td>Behavioral Disorders</td>
</tr>
<tr>
<td></td>
<td>Andrew Luescher</td>
</tr>
</tbody>
</table>

### Cardiorespiratory

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>Coughing</td>
</tr>
<tr>
<td></td>
<td>Kelly Anderson-Wessberg</td>
</tr>
<tr>
<td>54</td>
<td>Dyspnea and Tachypnea</td>
</tr>
<tr>
<td></td>
<td>Diane I. Mawby</td>
</tr>
</tbody>
</table>

### Hematologic/Chemical

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Abnormal Heart Sounds and Heart Murmurs</td>
</tr>
<tr>
<td></td>
<td>Robert Prošek</td>
</tr>
<tr>
<td>56</td>
<td>Pulse Alterations</td>
</tr>
<tr>
<td></td>
<td>Richard Kienle</td>
</tr>
<tr>
<td>57</td>
<td>Pleural Effusion</td>
</tr>
<tr>
<td></td>
<td>O. Lynne Nelson</td>
</tr>
<tr>
<td>58</td>
<td>Sneezing and Nasal Discharge</td>
</tr>
<tr>
<td></td>
<td>Kirsten Cooke</td>
</tr>
<tr>
<td>59</td>
<td>Pallor</td>
</tr>
<tr>
<td></td>
<td>Wallace B. Morrison</td>
</tr>
<tr>
<td>60</td>
<td>Polycythemia</td>
</tr>
<tr>
<td></td>
<td>Andreas Hans Hasler</td>
</tr>
<tr>
<td>61</td>
<td>Cyanosis</td>
</tr>
<tr>
<td></td>
<td>Jean-Paul Petrie</td>
</tr>
<tr>
<td>62</td>
<td>Jaundice</td>
</tr>
<tr>
<td></td>
<td>Susan M. Eddlestone</td>
</tr>
<tr>
<td>63</td>
<td>Bleeding Disorders: Epistaxis and Hemoptysis</td>
</tr>
<tr>
<td></td>
<td>Tracy Gieger</td>
</tr>
<tr>
<td>64</td>
<td>Petechiae and Ecchymoses</td>
</tr>
<tr>
<td></td>
<td>Mary Beth Callan</td>
</tr>
<tr>
<td>65</td>
<td>Electrolyte Disorders</td>
</tr>
<tr>
<td></td>
<td>David Church</td>
</tr>
</tbody>
</table>

### Toxicology

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>Intoxication versus Acute, Nontoxicologic Illness: Differentiating the Two</td>
</tr>
<tr>
<td></td>
<td>Ennene Cote, Saifdar A. Khan</td>
</tr>
<tr>
<td>67</td>
<td>Venomous Bites and Stings</td>
</tr>
<tr>
<td></td>
<td>Patrick M. Burns</td>
</tr>
<tr>
<td>68</td>
<td>Plant Toxicities</td>
</tr>
<tr>
<td></td>
<td>Lynn R. Houda</td>
</tr>
<tr>
<td>69</td>
<td>Topical Toxins</td>
</tr>
<tr>
<td></td>
<td>Patrick M. Burns</td>
</tr>
<tr>
<td>70</td>
<td>Chemical Toxicities</td>
</tr>
<tr>
<td></td>
<td>David C. Dorman, Janice A. Dye</td>
</tr>
</tbody>
</table>

### Techniques

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>Clinical Genetics</td>
</tr>
<tr>
<td></td>
<td>Urs Giger</td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>72</td>
<td>Abdominocentesis and Diagnostic Peritoneal Lavage</td>
</tr>
<tr>
<td>73</td>
<td>Abdominal Ultrasound: Aspirations and Biopsies</td>
</tr>
<tr>
<td>74</td>
<td>Arthrocentesis and Arthroscopy</td>
</tr>
<tr>
<td>75</td>
<td>Artificial Insemination in the Dog</td>
</tr>
<tr>
<td>76</td>
<td>Diagnostic Blood Pressure Measurement</td>
</tr>
<tr>
<td>77</td>
<td>Techniques for Bone Marrow Aspiration and Biopsy</td>
</tr>
<tr>
<td>78</td>
<td>Brain Biopsy</td>
</tr>
<tr>
<td>79</td>
<td>Muscle and Nerve Biopsy</td>
</tr>
<tr>
<td>80</td>
<td>Buccal Mucosal Bleeding Time</td>
</tr>
<tr>
<td>81</td>
<td>Jugular Catheterization and Central Venous Pressure</td>
</tr>
<tr>
<td>82</td>
<td>Cerebrospinal Fluid Collection, Myelography, and Epidurals</td>
</tr>
<tr>
<td>83</td>
<td>Veterinary Diagnosis of Bacterial, Fungal, and Viral Disease</td>
</tr>
<tr>
<td>84</td>
<td>Urogenital Diagnostic Procedures</td>
</tr>
<tr>
<td>85</td>
<td>Cytology of Internal Organs</td>
</tr>
<tr>
<td>86</td>
<td>Cytology of the Skin and Subcutaneous Tissues</td>
</tr>
<tr>
<td>87</td>
<td>Ear Flushing</td>
</tr>
<tr>
<td>88</td>
<td>Ear Vein Blood Glucose Monitoring</td>
</tr>
<tr>
<td>89</td>
<td>Echocardiography</td>
</tr>
<tr>
<td>90</td>
<td>Electrocardiographic (ECG) Techniques</td>
</tr>
<tr>
<td>91</td>
<td>Electromyography and Nerve Conduction Velocity Studies</td>
</tr>
<tr>
<td>92</td>
<td>Nasoesophageal, Esophagostomy, and Gastrostomy Tube Placement</td>
</tr>
<tr>
<td>93</td>
<td>Gastric Lavage</td>
</tr>
<tr>
<td>94</td>
<td>Transcervical Catheterization in the Bitch</td>
</tr>
<tr>
<td>95</td>
<td>Laparoscopy</td>
</tr>
<tr>
<td>96</td>
<td>Fine Needle Aspiration and Lung Biopsy</td>
</tr>
<tr>
<td>97</td>
<td>Lymph Node Aspiration and Biopsy</td>
</tr>
<tr>
<td>98</td>
<td>Pacemaker Implantation</td>
</tr>
<tr>
<td>99</td>
<td>Peritoneal Dialysis</td>
</tr>
<tr>
<td>100</td>
<td>Veterinary Nuclear Medicine</td>
</tr>
<tr>
<td>101</td>
<td>Endoscopic and Cytologic Procedures for Evaluation of the Gastrointestinal Tract</td>
</tr>
<tr>
<td>102</td>
<td>Rhinoscopy, Nasal Flushing, and Biopsy</td>
</tr>
<tr>
<td>103</td>
<td>Thoracic and Pericardial Taps and Drains</td>
</tr>
<tr>
<td>104</td>
<td>Transtracheal Wash and Bronchoscopy</td>
</tr>
<tr>
<td>105</td>
<td>Unblocking the Urethra of the Male Cat</td>
</tr>
<tr>
<td>106</td>
<td>Venous and Arterial Puncture</td>
</tr>
<tr>
<td>107</td>
<td>Skin Scrapings and Skin Biopsies</td>
</tr>
<tr>
<td>108</td>
<td>Inhalational Therapy for Airway Disease</td>
</tr>
</tbody>
</table>

**SECTION IV
Critical Care**

<p>| 109  | Acid-Base, Oximetry, and Blood Gas Emergencies                      | Marie E. Kerl                               | 396  |
| 110  | Acute Abdomen                                                       | Dez Hughes                                  | 401  |
| 111  | Cardiac Emergencies                                                 | Kirstie A. Barrett                          | 404  |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX</td>
<td>Therapeutic Considerations in Medicine and Disease</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Clueing in Customers</td>
<td>486</td>
</tr>
<tr>
<td></td>
<td>Leonard L. Berry, Neeli Bendapudi</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rational Use of Diagnostic Tests</td>
<td>489</td>
</tr>
<tr>
<td></td>
<td>Andrew S. Peregrine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Principles of Drug Therapy</td>
<td>492</td>
</tr>
<tr>
<td></td>
<td>Dawn M. Boothe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antimicrobial Drug Therapy</td>
<td>498</td>
</tr>
<tr>
<td></td>
<td>Mark G. Papich, Tara Bidgood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glucocorticoid Therapy</td>
<td>503</td>
</tr>
<tr>
<td></td>
<td>Leah A. Cohn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Over-the-Counter Human Medications</td>
<td>509</td>
</tr>
<tr>
<td></td>
<td>Etienne Côté</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compounding Drugs</td>
<td>512</td>
</tr>
<tr>
<td></td>
<td>Ron Johnson</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nutraceuticals</td>
<td>515</td>
</tr>
<tr>
<td></td>
<td>John E. Bauer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nonsteroidal Anti-Inflammatory Analgesics</td>
<td>518</td>
</tr>
<tr>
<td></td>
<td>Karol A. Mathews</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antioxidants in Health and Disease</td>
<td>522</td>
</tr>
<tr>
<td></td>
<td>John E. Bauer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Herbal Medicine</td>
<td>524</td>
</tr>
<tr>
<td></td>
<td>Rebecca L. Remillard, Susan G. Wynn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adverse Drug Reactions</td>
<td>527</td>
</tr>
<tr>
<td></td>
<td>Jill E. Maddison, Stephen W. Page</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Therapeutic Use of Acupuncture for Pain Control</td>
<td>532</td>
</tr>
<tr>
<td></td>
<td>James S. Gaynor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meeting the Needs of Patient and Client Through Compassionate Care</td>
<td>535</td>
</tr>
<tr>
<td></td>
<td>Gregory K. Ogilvie</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gene Therapy</td>
<td>538</td>
</tr>
<tr>
<td></td>
<td>Marilyn E. Dunn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Constant Rate Infusions</td>
<td>544</td>
</tr>
<tr>
<td></td>
<td>Nishi Dhupa</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hyperbaric Medicine</td>
<td>550</td>
</tr>
<tr>
<td></td>
<td>Jennifer J. Devey</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Dietary Considerations of Systemic Problems</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>Nutritional Assessment</td>
<td>554</td>
</tr>
<tr>
<td></td>
<td>Kathryn E. Michel</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
<td>Author(s)</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>150</td>
<td>Nutrition of Healthy Dogs and Cats in Various Stages of Adult Life</td>
<td>James G. Morris, Quinton R. Rogers, Andrea J. Fascetti</td>
</tr>
<tr>
<td>151</td>
<td>Neonatal and Pediatric Nutrition</td>
<td>Johnny D. Hoskins</td>
</tr>
<tr>
<td>152</td>
<td>Nutrition-Related Skeletal Disorders</td>
<td>Herman A. W. Hazewinkel</td>
</tr>
<tr>
<td>153</td>
<td>Adverse Reactions to Foods: Allergies versus Intolerance</td>
<td>Philip Roudebush</td>
</tr>
<tr>
<td>154</td>
<td>Nutritional Management of Gastrointestinal Conditions</td>
<td>Debra L. Zoran</td>
</tr>
<tr>
<td>155</td>
<td>Nutritional Management of Hepatic Conditions</td>
<td>Rebecca L. Remillard, Korinn E. Saker</td>
</tr>
<tr>
<td>156</td>
<td>Nutritional Management of Endocrine Diseases</td>
<td>Kathryn E. Michel</td>
</tr>
<tr>
<td>157</td>
<td>Nutritional Modulation of Heart Disease</td>
<td>Lisa M. Freeman, John E. Rush</td>
</tr>
<tr>
<td>158</td>
<td>Nutritional Management of Urinary Tract Conditions</td>
<td>India F. Lane</td>
</tr>
<tr>
<td>159</td>
<td>Parenteral Nutritional Support</td>
<td>Daniel Chan</td>
</tr>
<tr>
<td>160</td>
<td>Dietary and Medical Considerations in Hyperlipidemia</td>
<td>Denise A. Elliott</td>
</tr>
<tr>
<td>161</td>
<td>The Principles and Implementation of Enteral Nutrition</td>
<td>Stanley L. Marks</td>
</tr>
<tr>
<td>162</td>
<td>Serology</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Canine Vaccination</td>
<td>Richard B. Ford</td>
</tr>
<tr>
<td>164</td>
<td>Feline Vaccination</td>
<td>James R. Richards</td>
</tr>
<tr>
<td>165</td>
<td>Diseases Caused by Systemic Bacterial Infections</td>
<td>Katrin Hartmann, Craig E. Greene</td>
</tr>
<tr>
<td>166</td>
<td>Obligate Intracellular Bacterial Pathogens</td>
<td>Edward B. Breitschwerdt</td>
</tr>
<tr>
<td>167</td>
<td>Canine Bartonellosis</td>
<td>Edward B. Breitschwerdt</td>
</tr>
<tr>
<td>168</td>
<td>Protozoal and Miscellaneous Infections</td>
<td>Michael R. Lappin</td>
</tr>
<tr>
<td>169</td>
<td>Canine Viral Disease</td>
<td>Rance K. Sellon</td>
</tr>
<tr>
<td>170</td>
<td>Feline Leukemia Virus</td>
<td>Julie K. Levy, P. Cynda Crawford</td>
</tr>
<tr>
<td>171</td>
<td>Feline Immunodeficiency Virus Infection and Related Diseases</td>
<td>Katrin Hartmann</td>
</tr>
<tr>
<td>172</td>
<td>Feline Infectious Peritonitis and Feline Enteric Coronavirus</td>
<td>Janet E. Foley</td>
</tr>
<tr>
<td>173</td>
<td>Other Feline Viral Diseases</td>
<td>Rosalind M. Gaskell, Susan Dawson</td>
</tr>
<tr>
<td>174</td>
<td>Systemic Mycoses</td>
<td>Joseph Taboada, Amy M. Grooters</td>
</tr>
<tr>
<td>175</td>
<td>Coccioidiomycosis and Aspergillosis</td>
<td>Autumn P. Davidson</td>
</tr>
<tr>
<td>176</td>
<td>Tropical Diseases</td>
<td>Remo Lobetti</td>
</tr>
<tr>
<td>177</td>
<td>Public Health Aspects of Small Animal Practice</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Principles of Chemotherapy</td>
<td>Angela E. Frimberger</td>
</tr>
<tr>
<td>179</td>
<td>Practical Chemotherapy</td>
<td>Antony S. Moore</td>
</tr>
<tr>
<td>180</td>
<td>Practical Radiation Therapy</td>
<td>Alain P. Théon</td>
</tr>
<tr>
<td>181</td>
<td>Hematopoietic Tumors</td>
<td>David M. Vail, Douglas H. Thamm</td>
</tr>
<tr>
<td>182</td>
<td>Tumors of the Skin</td>
<td>Kenneth M. Rassnick</td>
</tr>
<tr>
<td>183</td>
<td>Soft Tissue Sarcomas</td>
<td>Rodney L. Page, Margaret C. McIntee</td>
</tr>
<tr>
<td>184</td>
<td>Hemangiosarcoma</td>
<td>Philip J. Bergman</td>
</tr>
<tr>
<td>185</td>
<td>Bone and Joint Tumors</td>
<td>Julius M. Liptak, Nicole Ehrhart</td>
</tr>
<tr>
<td>186</td>
<td>Mast Cell Disease</td>
<td>Kenita S. Rogers</td>
</tr>
</tbody>
</table>

### SECTION IX

Cancer

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>178</td>
<td>Principles of Chemotherapy</td>
<td>Angela E. Frimberger</td>
</tr>
<tr>
<td>179</td>
<td>Practical Chemotherapy</td>
<td>Antony S. Moore</td>
</tr>
<tr>
<td>180</td>
<td>Practical Radiation Therapy</td>
<td>Alain P. Théon</td>
</tr>
<tr>
<td>181</td>
<td>Hematopoietic Tumors</td>
<td>David M. Vail, Douglas H. Thamm</td>
</tr>
<tr>
<td>182</td>
<td>Tumors of the Skin</td>
<td>Kenneth M. Rassnick</td>
</tr>
<tr>
<td>183</td>
<td>Soft Tissue Sarcomas</td>
<td>Rodney L. Page, Margaret C. McIntee</td>
</tr>
<tr>
<td>184</td>
<td>Hemangiosarcoma</td>
<td>Philip J. Bergman</td>
</tr>
<tr>
<td>185</td>
<td>Bone and Joint Tumors</td>
<td>Julius M. Liptak, Nicole Ehrhart</td>
</tr>
<tr>
<td>186</td>
<td>Mast Cell Disease</td>
<td>Kenita S. Rogers</td>
</tr>
</tbody>
</table>
## VOLUME II

### SECTIONS XI

**Cardiovascular System**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>197</td>
<td>Pathophysiology of Heart Failure</td>
<td>Helio Aurran de Morais, Denise Saretta Schwartz</td>
</tr>
<tr>
<td>198</td>
<td>Biochemical Markers of Cardiovascular Disease</td>
<td>Karsten E. Schober</td>
</tr>
<tr>
<td>199</td>
<td>Therapy of Heart Failure</td>
<td>Barret J. Bulmer, D. David Sisson</td>
</tr>
<tr>
<td>200</td>
<td>Congenital Heart Disease</td>
<td>Mark A. Oyama, D. David Sisson, William P. Thomas, John D. Bonagura</td>
</tr>
<tr>
<td>201</td>
<td>Acquired Valvular Heart Disease</td>
<td>Jens Häggström, Clarence Kwart, Henrik D. Pedersen</td>
</tr>
<tr>
<td>202</td>
<td>Electrocardiography and Cardiac Arrhythmias</td>
<td>Etienne Côté, Stephen I. Ettinger</td>
</tr>
</tbody>
</table>

### SECTIONS XII

**Diseases of the Ears, Nose and Throat**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>209</td>
<td>Diseases of the Ear</td>
<td>MaryAnn G. Radlinsky, Diane E. Mason</td>
</tr>
<tr>
<td>210</td>
<td>Diseases of the Nose and Nasal Sinuses</td>
<td>Anjop J. Venker van Haagen</td>
</tr>
<tr>
<td>211</td>
<td>Diseases of the Throat</td>
<td>Nolie K. Parnell</td>
</tr>
</tbody>
</table>

### SECTIONS XIII

**Respiratory Disease**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>Clinical Evaluation of the Respiratory Tract</td>
<td>Deborah Silverstein, Kenneth J. Drobatz</td>
</tr>
<tr>
<td>213</td>
<td>Diseases of the Trachea</td>
<td>Stephen I. Ettinger, Brett Kantrowsitz</td>
</tr>
<tr>
<td>214</td>
<td>Diseases of the Small Airways</td>
<td>Lynelle R. Johnson</td>
</tr>
<tr>
<td>215</td>
<td>Pulmonary Parenchymal Disease</td>
<td>O. Lynne Nelson, Rance K. Seldon</td>
</tr>
<tr>
<td>216</td>
<td>Mediastinal Disease</td>
<td>Lisa E. Moore, David S. Biller</td>
</tr>
<tr>
<td>217</td>
<td>Pleural and Extrapleural Diseases</td>
<td>Michelle M. Mertens, Theresa W. Fossum, Kristin A. MacDonald</td>
</tr>
<tr>
<td>218</td>
<td>Pulmonary Hypertension and Pulmonary Thromboembolism</td>
<td>Kristin A. MacDonald, Lynelle R. Johnson</td>
</tr>
</tbody>
</table>

### SECTIONS XIV

**Gastrointestinal Disease**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>Oral and Salivary Gland Disorders</td>
<td>Mark M. Smith</td>
</tr>
</tbody>
</table>
### SECTION XV
#### Liver and Pancreatic Diseases

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>225</td>
<td>History, Clinical Signs, and Physical Findings in Hepatobiliary Disease</td>
<td>Cynthia R. L. Webster</td>
</tr>
<tr>
<td>226</td>
<td>General Principles in the Treatment of Liver Disease</td>
<td>Jan Rothuizen</td>
</tr>
<tr>
<td>227</td>
<td>Inflammatory Canine Hepatic Disease</td>
<td>Michael D. Willard</td>
</tr>
<tr>
<td>228</td>
<td>Feline Inflammatory Liver Disease</td>
<td>Sarah M. A. Coney, Timothy J. Gruffydd-Jones</td>
</tr>
<tr>
<td>229</td>
<td>Vascular Liver Diseases</td>
<td>Kyle G. Matthews, Susan K. Bunch</td>
</tr>
<tr>
<td>230</td>
<td>Toxic, Metabolic, Infectious, and Neoplastic Liver Diseases</td>
<td>Margie A. Scherk, Sharon A. Center</td>
</tr>
<tr>
<td>231</td>
<td>Diseases of the Gallbladder and Extrahepatic Biliary System</td>
<td>Michael D. Willard, Theresa W. Fossum</td>
</tr>
<tr>
<td>232</td>
<td>Canine Exocrine Pancreatic Disease</td>
<td>David A. Williams, Jörg M. Steiner</td>
</tr>
<tr>
<td>233</td>
<td>Feline Exocrine Pancreatic Disease</td>
<td>Jörg M. Steiner, David A. Williams</td>
</tr>
<tr>
<td>234</td>
<td>Exocrine Pancreatic Insufficiency in Dogs and Cats</td>
<td>Elias Westermann, Maria Wiberg, Jörg M. Steiner, David A. Williams</td>
</tr>
</tbody>
</table>

### SECTION XVI
#### Endocrine Disorders

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors/Editors</th>
</tr>
</thead>
<tbody>
<tr>
<td>235</td>
<td>Acromegaly and Pituitary Dwarfism</td>
<td>Hans S. Kooststra</td>
</tr>
<tr>
<td>236</td>
<td>Diabetes Insipidus</td>
<td>Ad Rijnberk</td>
</tr>
<tr>
<td>237</td>
<td>Disorders of the Parathyroid Glands</td>
<td>Edward C. Feldman</td>
</tr>
<tr>
<td>238</td>
<td>Hypothyroidism</td>
<td>J. Catharine R. Scott-Moncrieff, Lynn Guptill-Yoran</td>
</tr>
<tr>
<td>239</td>
<td>Hyperthyroidism</td>
<td>Carmel T. Mooney</td>
</tr>
<tr>
<td>240</td>
<td>Insulin-Secreting Islet Cell Neoplasia</td>
<td>Rebecka S. Hess</td>
</tr>
<tr>
<td>241</td>
<td>Diabetes Mellitus</td>
<td>Richard W. Nelson</td>
</tr>
<tr>
<td>242</td>
<td>Hyperadrenocorticism</td>
<td>Claudia E. Reusch</td>
</tr>
<tr>
<td>243</td>
<td>Hypoadrenocorticism</td>
<td>Michael E. Herriage</td>
</tr>
<tr>
<td>244</td>
<td>Gastrointestinal Endocrine Disease</td>
<td>Cynthia R. Ward, Robert J. Washabau</td>
</tr>
<tr>
<td>245</td>
<td>Pheochromocytoma</td>
<td>Elizabeth McNeil, Brian D. Husbands</td>
</tr>
<tr>
<td>246</td>
<td>Estrous Cycle and Breeding Management of the Healthy Bitch</td>
<td>Auke C. Schaafers-Ooksend</td>
</tr>
<tr>
<td>247</td>
<td>Ovarian and Estrous Cycle Abnormalities</td>
<td>Autumn P. Davidson, Edward C. Feldman</td>
</tr>
<tr>
<td>248</td>
<td>Abnormalities in Pregnancy, Parturition, and the Periparturient Period</td>
<td>Catharina Linde-Forsberg</td>
</tr>
<tr>
<td>249</td>
<td>Early Spay and Neuter</td>
<td>Margaret V. Root Kustritz</td>
</tr>
<tr>
<td>250</td>
<td>Contraception and Pregnancy Termination in the Dog and Cat</td>
<td>Bruce E. Eills</td>
</tr>
<tr>
<td>251</td>
<td>Cystic Endometrial Hyperplasia and Pyometra</td>
<td>Margaret V. Root Kustritz</td>
</tr>
<tr>
<td>252</td>
<td>Canine Female Infertility</td>
<td>Gary C. W. England</td>
</tr>
<tr>
<td>253</td>
<td>Vaginal Disorders</td>
<td>Beverly J. Purswell</td>
</tr>
<tr>
<td>254</td>
<td>Semen Evaluation, Canine Male Infertility, Common Disorders of the Male</td>
<td>Mustaq A. Memon, Kaitkanoke Sirinarumitr</td>
</tr>
<tr>
<td>255</td>
<td>Feline Reproduction</td>
<td>Sophie A. Grundy, Autumn P. Davidson</td>
</tr>
<tr>
<td>256</td>
<td>Care of the Neonate and Fading Pups</td>
<td>Gary C. W. England</td>
</tr>
</tbody>
</table>
SECTION XVIII
Urinary System

257  Renal Disease: Clinical Approach and Laboratory Evaluation  •  1716
     Stephen P. DiBartola

258  Acute Uremia  •  1731
     Larry D. Cowgill, Thierry Franchy

259  Renal Transplantation  •  1752
     Cathy E. Langston, Lori L. Ludwig

260  Chronic Kidney Disease  •  1756
     David J. Polzin, Carl A. Osbome, Sheri Ross

261  Glomerular Diseases  •  1786
     Shelly L. Vaden

262  Urinary Tract Infections  •  1800
     Joseph W. Bartges

263  Prostatic Diseases  •  1809
     Michelle A. Kutzler, Amy Yeager

264  Familial Renal Disease in Dogs and Cats  •  1819
     Stephen P. DiBartola

265  Renal Tubular Diseases  •  1824
     Marie E. Kerl

266  Feline Lower Urinary Tract Diseases  •  1828
     Jodi L. Westropp, C. A. Tony Buffington, Dennis J. Chew

267  Canine Lower Urinary Tract Diseases  •  1850
     Larry G. Adams, Harriet M. Syme

268  Ureteral Diseases  •  1875
     Lori L. Ludwig

270  Regenerative Anemias Caused by Blood Loss or Hemolysis  •  1886
     Urs Giger

271  Nonregenerative Anemia  •  1908
     Bernard F. Feldman

272  Platelet Disorders and von Willebrand Disease  •  1918
     Marjory B. Brooks, James L. Catalfiano

273  Inherited Coagulopathies  •  1929
     Anthony P. Carr

274  Acquired Coagulopathies  •  1933
     Robert M. DuFort, Linda Matros

275  Leukocyte Disorders  •  1937
     Charles W. Brookes

276  Non-Neoplastic Diseases of the Spleen  •  1944
     Helio Autran de Morais, Robert T. O'Brien

277  Systemic Lupus Erythematosus  •  1952
     Michael Stone

278  Immune-Mediated and Infectious Arthritis  •  1958
     David Bennett

279  Skeletal Diseases  •  1965
     Kenneth A. Johnson, A.D.I. Watson

REFERENCES AND CLIENT INFORMATION SHEETS

References and Client Information Sheets can be found on the CD bound in the book.
Abnormal Laboratory Findings, Conditions Associated with Hematologic Changes, and Urinalysis Abnormalities are located on the inside covers.
Robert M. DuFort

269  Problem-Oriented Differential Diagnosis of Autoimmune Skin Diseases  •  1882
     Karen A. Moriello
Specialists in internal medicine may also find employment with organizations such as veterinary colleges, research labs, and commercial pharmaceutical companies. Those working for veterinary colleges may have additional duties such as giving lectures, supervising lab work, advising students, and overseeing research projects. Those working in corporate environments tend to focus on creating diagnostic testing and treatment options. Internal Medicine Veterinarian Salary. Meaning of veterinary internal medicine medical term. What does veterinary internal medicine mean? Of or relating to veterinary medicine; concerned or connected with the medical or surgical treatment of animals, especially domestic animals. n. pl. veterinaries. A veterinarian. Journal of Veterinary Internal Medicine (JVIM) is a bi-monthly peer-reviewed scientific journal covering new scientific developments in veterinary internal medicine. It was established in 1987 and is published by John Wiley & Sons. It is the official publication of the American College of Veterinary Internal Medicine, the European College of Veterinary Internal Medicine, the European College of Veterinary Neurology, and the European College of Equine Internal Medicine.