## **Contents**

```
Foreword xvii
   Preface xviii
   Acknowledgments xx
   About the Companion Website xxi
1 Manual Restraint of the Avian Patient 1
   Restraint 1
     Purpose 1
     Complications 1
     Equipment 2
     Procedure: Removal from Cage or Carrier
       Technical Action 2
       Rationale/Amplification 2
     Procedure: Towel Use 3
       Technical Action 3
       Rationale/Amplification
     Procedure: Restraint Strap
     Purpose 5
       Technical Action 6
       Rationale/Amplification 10
     Procedure: Restrictive Collars 10
       Technical Action 11
       Rationale/Amplification 12
     Procedure: Returning to Cage or Carrier 13
       Technical Action 13
       Rationale/Amplification 13
   Bibliography 14
2 Blood Collection 15
   Jugular Vein 15
     Equipment 15
     Procedure 15
   Wing Vein (Basilic Vein also called the Brachial Vein) 17
     Equipment 17
     Procedure 17
   Leg (Medial Metatarsal also called the Caudal Tibial Vein) 18
```

Equipment 18

	Procedure 18	
	Toenail 20	
	Equipment 20	
	Procedure 20	
	Rationale/Amplification 21	
	Bibliography 21	
	zionograpity 21	
3	Injection Techniques 22	
	Intramuscular (IM) 22	
	Purpose 22	
	*	
	Equipment 22	
	Procedure 23	
	Subcutaneous (SC) 24	
	Procedure 25	
	Intravenous (IV) 26	
	Procedure 26	
	Rationale/Amplification 27	
	Intranasal 28	
	Procedure 28	
	Intratracheal 28	
	Procedure 29	
	Bibliography 29	
	<i>5</i> 1 <i>5</i>	
4	<b>Oral Administration of Medications</b> <i>30</i>	
	Direct Delivery of Medication into the Mouth	30
	Equipment 30	
	Procedure 30	
	Rationale/Amplification 32	
	Bibliography 32	
	Bioliography 32	
5	<b>Dermatologic Procedures</b> 33	
,	Procedure: Feather Examination 33	
	Purpose 33	
	•	
	Complications 33	
	Equipment 33	
	Technical Action 34	
	Rationale/Amplification 35	
	Procedure:Pulp Cytology and Microbiology	35
	Complications 36	
	Equipment 36	
	Technical Action 36	
	Rationale/Amplification 36	
	Procedure: Skin Microbiology 36	
	Purpose 36	
	Complications 38	
	Equipment 38	
	~ ^	

```
Technical Action 38
       Rationale/Amplification 38
     Procedure: Impression Smears 38
     Purpose 38
     Complications 38
     Equipment 38
       Technical Action 39
       Rationale/Amplification 39
     Procedure: FNA Biopsies 39
     Purpose 39
     Complications
     Equipment 39
       Technical Action 40
       Rationale/Amplification 41
     Procedure: Skin/Feather Biopsy 41
     Purpose 41
     Complications 41
     Equipment 41
       Technical Action 42
       Rationale/Amplification 43
     Procedure: Uropygial Gland Exam, Cytology, Microbiology 44
     Purpose 44
     Complications 44
     Equipment 44
       Technical Action 44
       Rationale/Amplification 45
   Bibliography 45
6 Ophthalmic Procedures 46
   Anatomic Considerations of the Avian Eye 46
     Mydriatics 46
     Topical Anesthetics 46
   Physical Exam 46
     Procedure 46
     Equipment 46
       Technical action 47
     Procedure: Topical Application of Ophthalmic Medications 48
     Complications 48
     Equipment 49
       Technical Action 49
       Rationale/Amplification 49
     Procedure: Tear Production Assessment – 2 Methods 49
     1: Phenol Red Thread Tear Test 49
     Equipment 50
     Complications 50
       Technical Action 50
       Rationale/Amplification 51
```

2: Schirmer Tear Test 51
Equipment 51
Complications 51
Technical Action 51
Rationale/Amplification 52
Procedure: Intraocular Pressure 52
Purpose 52
Complications 52
Equipment 52
1) Applanation technique (TonoPet®) 53
Technical Action 53
Rationale/Amplification 53
2) Rebound technique (TonoVet*) 54
Technical Action 54
Rationale/Amplification 54
Procedure: Corneal Diagnostics: Fluorescein Staining 54
Purpose 54
Complications 54
Equipment 54
Technical Action 54
Rationale/Amplification 57
Procedure: Corneal/Conjunctival Diagnostic Testing 58
Purpose 58
Complications 58
Equipment 58
Technical Action 58
Rationale/Amplification 59
Bibliography 59
Sinus Flushing and Nasal Concretion Removal 60
Purpose 60
Procedure: Sinus Aspirate 60
Technical Action 60
Procedure: Nasal and Sinus Flushing 61
Technical Action 61
Procedure: Removal of Concretions and Plugs 63
Technical Action 63
Technical Action 64
Rationale/Amplification 64
Bibliography 64
<b>Grooming Procedures</b> 65
Procedure: Nail Trims 65
Equipment 65
Technical Action 65
Rationale/Amplification 66

Procedure: Wing Trims 67 Purpose 67 Equipment 67 Technical Action 67 Rationale/Amplification 69 Dr. Bennett's Preferred Clip 70 Procedure: Microchipping 71 Technical Action 71 Rationale/Amplification 72 Procedure: Band Removal 72 Equipment 73 Technical Action 73 Rationale/Amplification 74 Procedure Beak Trims 74 Equipment 74 Technical Action 74 Rationale/Amplification 75 Bibliography 76 **Cloacal Procedures** 77

Procedure: Collecting Diagnostic Material 77 Equipment 77 Technical Action 77 Rationale/amplification 78 Procedure: Cloacal Endoscopic Examination 78 Purpose 78 Equipment 78 Technical Action 79 Rationale/Amplification 79 Bibliography 79

### **10 Surgery Preparations** *80*

Procedure: Preparation of the Surgery Suite and Patient 80 Purpose 80 Complications 80 Equipment 80 Technical Action 82 Rationale/Amplification 85 Bibliography 85

#### **11 Intubation** 86

Equipment 86 Technical Action 86 Rationale/Amplification 88 Bibliography 89

# **12** Gavage and Lavage 90

Procedure: Collection of Diagnostic Material 90

Technical Action 90 Procedure: Crop Wash 91 Technical Action 92

Rationale/Amplification 92

Procedure: Gavage Feeding via Crop Tube 92

Technical Action 93 Rationale/Amplification 93

Bibliography 94

#### **13 Coelomocentesis** 95

Purpose 95 Equipment 95 Technical Action 96 Rationale/Amplification 97 Bibliography 97

### **14 Nebulization** 98

Purpose 98 Equipment 98 Technical Action 98 Rationale/Amplification 99 Basic Nebulizing Formulas for Use in Birds 99 Bibliography 100

### **15 Egg Retention Procedures** *101*

Bibliography 106

Procedure: Examination and Preparation for Egg Evacuation 101 Purpose 101 Complications 101 Equipment 102 Technical Action 102 Rationale/Amplification 103 Procedure: Topical Application of Prostaglandin 103 Purpose 103 Complications 104 Equipment 104 Technical Action 104 Rationale/Amplification 104 Procedure: Manual Egg Delivery 104 Purpose 104 Complications 104 Equipment 105 Technical Action 105 Rationale/Amplification 106

#### **16 Cardiac Procedures** *107*

Procedure: Electrocardiography (ECG) 109 Purpose 109 Complications 109 Equipment 109 Technical Action 110 Rationale/Amplification 112 Procedure: Blood Pressure 113 Purpose 113 Complications 114 Equipment 115 Technical Action 115 Rationale/Amplification 115 Procedure: Echocardiography 115 Purpose 116 Complications 116 Equipment 117 Technical Action 117 Rationale/Amplification 118 Bibliography 118

#### **17 Hemostasis** *119*

Purpose 119 Equipment 119 Technical Action 120 Rationale/Amplification 120 Procedure Blood Feathers 120 Equipment 120 Technical Action 120 Rationale/Amplification 122 Procedure: Toenails 122 Purpose 122 Equipment 122 Technical Action 123 Rationale/Amplification 126 Bibliography 126

### **18 Transfusions** *127*

Purpose 127 Equipment 127 Technical Action 127 Rationale/Amplification 127 Additional Considerations and Treatments 128 Bibliography 128

# **xiv** Contents 19 Air Sac Cannulation and Oxygen Supplementation 129 Purpose 129 Complications 129 Equipment 130 Technical Action 130 Rationale/Amplification 131 Bibliography 131 **20** CPR (Cardiopulmonary Resuscitation) 132 Purpose 133 Emergency Avian Drugs 134

Complications 136 Equipment 136 Technical Action 136 Rationale/Amplification 138 Bibliography 139

### 21 Fluid Therapy 140

Purpose 140 Equipment 140 Technical Action 140 Oral 141 Subcutaneous 143 Intravenous 143 Intraosseous 144 Rationale/Amplification 147 Syringe Pumps 147 Bibliography 147

#### **22 Positioning for Imaging** 148

Procedure: Ventrodorsal Positioning 149 Purpose 149 Complications 149 Equipment 149 Technical Action 149 Rationale/Amplification 150 Procedure: Laterolateral Positioning 151 Purpose 151 Complications 151 Equipment 151 Technical Action 151 Rationale/Amplification 153 Procedure: Wing Positioning 153 Purpose 153 Complications 153 Equipment 153 Technical Action 153

Procedure: Contrast Radiography 154 Purpose 154 Complications 154 Equipment 154 Technical Action 154 Rationale/Amplification 154 Procedure: Ultrasonographic Positioning 154 Purpose 154 Complications 154 Equipment 155 Technical Action 155 Rationale/Amplification 155 Bibliography 155 **23 Euthanasia Techniques** *156* Table 23.1 AVMA Guidelines for Euthanasia 2020 Applicable for Pet Birds 157 Equipment 158 Procedure: Euthanasia by Injection 158 Purpose 159 Complications 159 Technical Action 159 Procedure: Euthanasia by Inhalation 160 Technical Action 160 Bibliography 160 24 Analgesia, Sedation, and Anesthesia: Medications and Procedures 161 Procedure: Analgesia 162 Purpose 162 Complications 162 Equipment 162 Technical Action 162 Rationale/Amplification 163 Procedure: Sedation 163 Purpose 163 Complications 163 Equipment 163 Technical Action 164 Rationale/Amplification 165 Procedure: Local Anesthesia 165 Purpose 165 Complications 165 Equipment 166 Technical Action 166 Rationale/Amplification 167 Procedure: General Anesthesia 167 Purpose 167 Complications 167

# xvi Contents

Equipment 167
Technical Action 168
Rationale/Amplification 169
Table 24.1 Analgesics 169
Table 24.2 Sedatives/Pre-Anesthetics 170
Table 24.3 General Anesthetics 170
Bibliography 170

Appendix A References and Resources 171
Appendix B Abbreviations 173
Appendix C Common Pet and Aviary Birds 175
Index 178