

About the Authors xiv

About the Contributors xvii

Preface xviii

Acknowledgments xxi

Part 1 Patient Care Considerations 1

1 The Gold Standard, Standards of Care, and Spectrum of Care: An Evolving Approach to Diagnostic Medicine 3

Ryane E. Englar

1.1 Defining the Gold Standard 3

1.2 Limitations of the Gold Standard 4

1.3 Returning to the Case of the Cat with Stranguria: a Different Perspective on Standards of Care 4

1.4 Limitations to Standards of Care 5

1.5 Spectrum of Care 6

References 7

2 Consultation Room Communication Strategies that Facilitate Dialogue on the Diagnostic Approach to Patient Care 9

Ryane E. Englar

2.1 Emergence of Communication as a Clinically Relevant Skill in Human Health Care 9

2.2 The Evolution of Communication in Veterinary Health Care 10

2.3 Communication Skills That Are Essential to Diagnosis-Making 11

2.4 Concepts of Health Literacy and Compliance 13

2.5 Using Easy-to-Understand (Nonmedical) Language 14

2.6 Checking in 15

2.7 Assessing the Client's Knowledge 17

2.8 Signposting 18

2.9 Addressing the Cost of Care 20

References 22

Part 2 Quick Assessment Tests (QATS) Involving Blood 27

3 Packed Cell Volume 29

Sharon M. Dial

3.1 Procedural Definition: What Is this Test About? 29

3.2 Procedural Purpose: Why Should I Perform this Test? 29

3.3 Equipment 29

3.4 Procedural Steps: How Do I Perform this Test? 30

3.5 Time Estimate to Perform Test 33

3.6 Procedural Tips and Troubleshooting 33

3.7 Interpreting Test Results 34

3.8 Clinical Case Example(s): Can We Link to the Cases in Chapter 5? 35

3.9 Add-On Tests That You May Need to Consider and Their Additive Value 35

3.10 Key Takeaways 36

References 36

4 Total Protein as Measured by Refractometry 37

Sharon M. Dial

4.1 Procedural Definition: What Is This Test About? 37

4.2 Procedural Purpose: Why Should I Perform this Test? 37

4.3 Equipment 38

4.4 Procedural Steps: How Do I Perform this Test? 38

4.5 Time Estimate to Perform Test 42

4.6 Procedural Tips and Troubleshooting 43

4.7 Interpreting Test Result 43

4.8 Clinical Case Example(s) 44

4.9 Add-On Tests That You May Need to Consider and Their Additive Values 44

4.10 Key Takeaways 44

Reference 45

Suggested References 45

5 Gross and Microscopic Evaluation of the Buffy Coat 46

Sharon M. Dial

5.1 Procedural Definition: What Is This Test About? 46

5.2 Procedural Purpose: Why Should I Perform this Test? 46

5.3 Equipment 47

5.4 Procedural Steps: How Do I Perform this Test? 47

5.5 Time Estimate to Perform Test 50

5.6 Procedural Tips and Troubleshooting 53

5.7 Interpreting Test Results 53

5.8 Clinical Case Example(s) 54

5.9 Add-On Tests That You May Need to Consider and Their Additive Value 54

5.10 Key Takeaways 54

Reference 54

6 The Blood Film 55

Sharon M. Dial

6.1 Procedural Definition: What Is This Test About? 55

6.2 Procedural Purpose: Why Should I Perform This Test? 55

6.3 Equipment 55

6.4 Procedural Steps: Preparing the Blood Film How Do I Perform This Test? 56

6.5 Time Estimate to Perform Test 64

6.6 Procedural Tips and Troubleshooting 64

6.7 Interpreting Test Results 69

6.8 Clinical Case Example(s) 70

6.9 Add-On Tests That You May Need to Consider and Their Additive Value 70

6.10 Key Takeaways 70

References 70

Suggested Bench-Side Reference 71

7 Blood Glucose 72

Sharon M. Dial

7.1 Procedural Definition: What Is This Test About? 72

7.2 Procedural Purpose: Why Should I Perform This Test? 72

7.3 Equipment 73

7.4 Procedural Steps: How Do I Perform This Test? 73

7.5 A Note on Quality Control 73

7.6 Procedure for Patient Samples 74

7.7 Time Estimate to Perform Test 76

7.8 Procedural Tips and Troubleshooting 76

7.9 Interpreting Test Results 77

7.10 Clinical Case Example(s) 78

7.11 Add-On Tests That you May Need to Consider and Their Additive Values 78

7.12 Key Takeaways 78

References 78

8 Blood Urea Nitrogen 79

Sharon M. Dial

8.1 Procedural Definition: What Is This Test About? 79

8.2 Procedural Purpose: Why Should I Perform This Test? 79

8.3 Equipment 80

8.4 Procedural Steps: How Do I Perform this Test? 80

8.5 Time Estimate to Perform Test 81

8.6 Procedural Tips and Troubleshooting 81

8.7 Interpreting Test Results 82

8.8 Clinical Case Example(s) 82

8.9 Add-On Tests That You May Need to Consider and Their Additive Value 82

8.10 Key Takeaways 83

9 Whole Blood Lactate 84

Sharon M. Dial

- 9.1 Procedural Definition: What Is This Test About? 84
- 9.2 Procedural Purpose: Why Should I Perform This Test? 84
- 9.3 Equipment 85
- 9.4 Procedural Steps: How Do I Perform This Test? 85
- 9.5 A Note on Quality Control 85
- 9.6 Procedure for Patient Samples 85
- 9.7 Time Estimate to Perform Test 87
- 9.8 Procedural Tips and Troubleshooting 87
- 9.9 Interpreting Test Results 87
- 9.10 Clinical Case Example(s) 88
- 9.11 Add-On Tests That You May Need to Consider and Their Additive Value 88
- 9.12 Key Takeaways 88
- References 88

10 Saline Agglutination Test 89

Sharon M. Dial

- 10.1 Procedural Definition: What Is This Test About? 89
- 10.2 Procedural Purpose: Why Should I Perform This Test? 89
- 10.3 Equipment 89
- 10.4 Procedural Steps: How Do I Perform This Test? 89
- 10.5 Time Estimate to Perform Test 91
- 10.6 Procedural Tips and Troubleshooting 91
- 10.7 Interpreting Test Results 92
- 10.8 Clinical Case Example(s) 92
- 10.9 Add-On Tests That You May Need to Consider and Their Additive Value 92
- 10.10 Key Takeaways 92

Reference 93

11 Activated Clotting Time 94

Sharon M. Dial

11.1 Procedural Definition: ("What Is This Test About?") 94

11.2 Procedural Purpose: Why Should I Perform This Test? 94

11.3 Equipment 94

11.4 Procedural Steps: How Do I Perform This Test? 94

11.5 Time Estimate To Perform Test 96

11.6 Procedural Tips and Troubleshooting 97

11.7 Interpreting Test Results 97

11.8 Clinical Case Example(s) 97

11.9 Add-On Tests That You May Need to Consider and Their Additive Value 97

11.10 Key Takeaways 97

Part 3 Quick Assessment Tests (QATS) Involving Urine 99

12 Assessing Urine's Physical Properties 101

Ryane E. Englar

12.1 Procedural Definition: What Is This Test About? 101

12.2 Procedural Purpose: Why Should I Perform This Test? 101

12.3 Equipment 102

12.4 Procedural Steps 103

12.5 Time Estimate to Perform Test 105

12.6 Procedural Tips and Troubleshooting 105

12.7 Interpreting Test Results 106

12.8 Clinical Case Example(s) 111

12.9 Add-On Tests That You May Need to Consider and Their Additive Value 113

12.10 Key Takeaways 113

12.11 Clinical Pearls 114

References 115

13 Urine Specific Gravity 116

Ryane E. Englar

13.1 Procedural Definition: What Is This Test About? 116

13.2 Procedural Purpose: Why Should I Perform this Test? 117

13.3 Equipment 117

13.4 Procedural Steps 118

13.5 Time Estimate to Perform Test 124

13.6 Procedural Tips and Troubleshooting 124

13.7 Interpreting Test Results 124

13.8 Clinical Case Example(s) 126

13.9 Add-On Tests That You May Need to Consider and Their Additive Value 127

13.10 Key Takeaways 127

13.11 Clinical Pearls 127

References 128

14 Chemical Evaluation of Urine 130

Ryane E. Englar

14.1 Procedural Definition: What Is This Test About? 130

14.2 Procedural Purpose: Why Should I Perform This Test? 132

14.3 Equipment 132

14.4 Procedural Steps 132

14.5 Time Estimate to Perform Test 136

14.6 Procedural Tips and Troubleshooting 136

14.7 Interpreting Test Results 138

14.8 Clinical Case Example(s) 141

14.9 Add-On Tests That You May Need to Consider and Their Additive Value 142

14.10 Key Takeaways 143

14.11 Clinical Pearls 144

References 145

15 Urine Sediment Examination 146

Sharon M. Dial

15.1 Procedural Definition: What Is This Test About? 146

15.2 Procedural Purpose: Why Should I Perform This Test? 146

15.3 Equipment 147

15.4 Procedural Steps: How Do I Perform This Test? 147

15.5 Time Estimate to Perform Test 149

15.6 Procedural Tips and Troubleshooting 151

15.7 Interpreting Test Results 152

15.8 Clinical Case Example(s) 157

15.9 Add-On Tests That You May Need to Consider and Their Additive Value 157

15.10 Key Takeaways 157

Reference 157

Suggested Bench-Side References 158

Part 4 Quick Assessment Tests (QATS) Involving Feces 159

16 Assessing the Physical Properties of Fecal Matter 161

Ryane E. Englar

16.1 Procedural Definition: What Is This Test About? 161

16.2 Procedural Purpose: Why Should I Perform This Test? 161

16.3 Equipment 164

16.4 Procedural Steps 166

16.5 Time Estimate to Perform Test 166

16.6 Procedural Tips and Troubleshooting 166

16.7 Interpreting Test Results 172

16.8 Clinical Case Example(s) 183

16.9 Add-On Tests That You May Need to Consider and Their Additive Value 183

16.10 Key Takeaways 185

16.11 Clinical Pearls 186

References 187

17 Direct Smears 191

Ryane E. Englar

17.1 Procedural Definition: What Is This Test About? 191

17.2 Procedural Purpose: Why Should I Perform This Test? 191

17.3 Equipment 194

17.4 Procedural Steps [1–5, 20, 30, 60–62] 194

17.5 Time Estimate to Perform Test 196

17.6 Procedural Tips and Troubleshooting 196

17.7 Interpreting Test Results 197

17.8 Clinical Case Example(s) 198

17.9 Add-On Tests That You May Need to Consider and Their Additive Value 201

17.10 Key Takeaways 203

17.11 Clinical Pearls 204

References 204

18 Fecal Flotation 207

Ryane E. Englar and Jeremy Bessett

18.1 Procedural Definition: What is This Test About? 207

18.2 Procedural Purpose: Why Should I Perform This Test? 210

18.3 Options Available for Fecal Flotation 211

18.4 Equipment 213

18.6 Time Estimate to Perform Fecal Flotation with Fixed-Angle Centrifuge 216

18.7 Brief Consideration of the Procedural Steps in the Event a Swinging Bucket Centrifuge Is Used 217

18.8 Equipment 217

18.9 Procedural Steps 217

18.10 Time Estimate to Perform Passive Fecal Flotation 221

18.11 Procedural Tips and Troubleshooting for Fecal Flotation 221

18.12 Interpreting Test Results 221

18.13 Clinical Case Example(s) 227

18.14 Add-On Tests That You May Need to Consider and Their Additive Value 227

18.15 Key Takeaways 229

18.16 Clinical Pearls 229

References 230

Part 5 Quick Assessment of Body Cavity Fluids 235

19 Body Cavity Fluid Analysis 237

Sharon M. Dial

19.1 Procedural Definition: What Is This Test About? 237

19.2 Procedural Purpose: Why Should I Perform This Test? 237

19.3 Equipment 238

19.4 Procedural Steps: How Do I Perform This Test? 238

19.5 Time Estimate to Perform Test 240

19.6 Procedural Tips and Troubleshooting 240

19.7 Interpreting Test Results 241

19.8 Clinical Case Example(s) 244

19.9 Add-On Tests That You May Need to Consider and Their Additive Value 244

19.10 Key Takeaways 245

References 245

Suggested Bench-Side References 245

Part 6 Clinical Cases 247

20 Clinical Cases 249

Jeremy Bessett, with support from Sharon M. Dial

Case 1: Fred 249

Case 2: Bella 253

Case 3: Benji 258

Case 4: Mittens 266

Case 5: Star 272

Case 6: Earl 277

Case 7: Sammy 281

Case 8: Coffee 286

Case 9: Dexter 291

Case 10: Tabitha 297

Case 11: Ace 301

Case 12: Timothy 304

Case 13: Duckie 307

Case 14: Angel 311

Case 15: Chase 314

Index 321