

Contents

Preface *xi*

Acknowledgments *xiii*

1 Cytology Sampling and Preparation *1*

- 1.1 Cytology *1*
- 1.2 Sample Collection and Preparation *1*
- 1.3 Sample Staining *7*
- 1.4 Sample Handling and Storage *8*
- References *9*

2 Cytologic Analysis of Cells *11*

- 2.1 Approach to Cytology Samples *11*
- 2.2 Sample Quality and Background *11*
- 2.3 Cell Types *15*
- 2.4 Cell Shape, Distribution, and Features *29*
- 2.5 Benign Versus Malignant *30*
- References *43*

3 Infectious Agents *45*

- 3.1 Fungi *45*
- 3.2 Oomycetes *56*
- 3.3 Algae *56*
- 3.4 Mesomycetozoea *58*
- 3.5 Protozoa *58*
- 3.6 Helminths *65*
- 3.7 Bacteria *69*
- 3.8 Ectoparasites *75*
- References *78*

4 Integument *85*

- 4.1 Cutaneous and Subcutaneous Lesions *85*
- References *133*

5 Hemolymphatic *139*

- 5.1 Lymph Nodes *139*
- 5.2 Spleen *153*
- 5.3 Thymus *167*
- 5.4 Bone Marrow *170*
- References *188*

6 Body Cavity Fluids 193

- 6.1 General Classification 193
- 6.2 Specific Effusions 197
- References 208

7 Musculoskeletal 211

- 7.1 Bone 211
- 7.2 Joints 219
- 7.3 Muscle 226
- References 230

8 Hepatobiliary 235

- 8.1 Liver 235
- 8.2 Biliary Tract 250
- References 252

9 Digestive System 255

- 9.1 Salivary Glands 255
- 9.2 Stomach/Intestines 258
- 9.3 Feces 267
- 9.4 Pancreas 272
- References 279

10 Urinary 285

- 10.1 Kidney 285
- 10.2 Bladder 291
- 10.3 Urine 294
- 10.4 Urinary Crystals 298
- 10.5 Urinary Casts 303
- References 307

11 Respiratory 311

- 11.1 Nasal Cavity 311
- 11.2 Lung 317
- 11.3 Bronchoalveolar Lavage/Transtracheal Wash 320
- References 328

12 Endocrine 331

- 12.1 Thyroid 331
- 12.2 Parathyroid 335
- 12.3 Chemoreceptor Tumors 336
- 12.4 Adrenal Gland 338
- 12.5 Pituitary Gland 340
- References 342

13 Reproductive 345**Male 345**

- 13.1 Testes 345
- 13.2 Semen Analysis 350
- 13.3 Prostate 350
- 13.4 Penis 358

	Female	358
13.5	Ovary	358
13.6	Mammary Glands	361
13.7	Vaginal Cytology	366
	References	375
14	Neurologic	379
14.1	Brain	379
14.2	Cerebrospinal Fluid	386
14.3	Spinal Cord	400
	References	402
15	Ocular and Special Senses	405
15.1	Eyes: Cornea	405
15.2	Eyes: Conjunctiva	409
15.3	Ears	412
	References	417
16	Blood Smear Preparation and Evaluation	421
16.1	The Importance of Blood Smear Evaluation	421
16.2	Making a Blood Smear	421
16.3	Blood Smear Staining and Handling	425
16.4	Blood Smear Evaluation	427
16.5	Hematology Procedures and Techniques	430
	References	432
17	Erythrocytes	433
17.1	Approach to Evaluating Red Blood Cells	433
17.2	Red Blood Cell Distribution	433
17.3	Red Blood Cell Morphology	438
17.4	Red Blood Cell Inclusions	456
17.5	Red Blood Cell Neoplasia	461
17.6	Red Blood Cell Infectious Agents	462
	References	468
18	Leukocytes	475
18.1	Approach to Evaluating Leukocytes	475
18.2	Neutrophils	476
18.3	Neutrophil Inclusions	484
18.4	Eosinophils	488
18.5	Basophils	489
18.6	Mast Cells	491
18.7	Monocytes	492
18.8	Lymphocytes	495
18.9	Leukocyte Neoplasia	498
18.10	Leukocyte Infectious Agents	504
	References	509
19	Platelets	515
19.1	Approach to Evaluating Platelets	515
19.2	Platelet Distribution	515

19.3	Platelet Morphology	518
19.4	Platelet Neoplasia	522
19.5	Platelet Infectious Agents	524
	References	525

20	Background Features and Miscellaneous Cells	527
20.1	Approach to Blood Smear Background Features	527
20.2	Acellular Elements	527
20.3	Miscellaneous Cells	528
20.4	Infectious Agents	533
	References	536

Index	537
--------------	------------