Contents

1. Clinical Utility, Technique and Ancillary Studies 1

Lester J Layfield

- Guidance Techniques 1
- Biopsy Equipment 1
- Biopsy Procedure 2
- Fixation and Staining 3
- Ancillary Techniques 3
- Culture for Infectious Organisms 4
- Electron Microscopy 4
- Immunocytochemistry 4
- Flow Cytometry 5
- Fluorescence in Situ Hybridization and Chromogenic in Situ Hybridization 6
- Molecular Diagnostics 6

2. Head & Neck and Salivary Gland 11

Jerzy Klijanienko

- General Considerations 11
- FNA as a Diagnostic Method in Head and Neck Tumors 11
- FNA as a Diagnostic Method in Salivary Gland Tumors 17
- FNA Classification of Salivary Gland Tumors 19
- Tumors in Which Myoepithelial Cells Predominate 19
- Tumors with Oncocytic Cell Predominance 23
- Tumors with Basal Cell Predominance 25
- Tumors with Squamous Cell Predominance 28
- Tumors with Mucin Production 29
- Tumors with Acinic Cell Predominance 32
- Tumors with Nonspecific/Poorly Differentiated Cell Predominance 34

3. Fine Needle Aspiration of Thyroid 40

Zubair W Baloch

- FNA Indications, Procedure, Specimen, Adequacy, and Classification 40
- Cytomorphology of Thyroid Lesions 41
- Rare Tumors of Thyroid Gland 55
- Role of Special Studies in the Diagnosis of Thyroid Tumors in Cytologic Specimens 57

4. Mediastinum 63

Lester J Layfield

- Clinical Considerations 63
- Cytologic Findings in Common Mediastinal Lesions 64
- Malignant Neoplasms of the Mediastinum 69

5. Lung and Pleura **77**

Lester J Layfield

- Clinical Considerations and Technical Aspects 77
- Cytologic Features of Normal Lung 78
- Specific and Nonspecific Inflammatory Changes 80
- Pulmonary Neoplasms 83
- Metastatic Lesions to the Lung 96
- Pleural Lesions 97

6. The Breast **104**

Shahla Masood, Marilin Rosa

- Inflammatory and Reactive Lesions 105
- Nonproliferative Breast Changes 107
- Fibroepithelial Tumors 108
- Proliferative Breast Disease 110
- Papillary Neoplasms 113
- In Situ Lesions of the Breast 115
- Invasive Carcinoma 116
- Mesenchymal Tumors 121
- Lymphoproliferative Disorders 123
- Lesions of the Male Breast 124

7. Fine Needle Aspiration of Lymphoid Lesions **133**

Hasan Ghaffar

- Technical Considerations 134
- Ancillary Studies 134
- Diagnosis of Lymphoma 136

8. Liver **149**

Harvey M Cramer

- Clinical Considerations and Technical Aspects 149
- Localized Lesions and Lesions of Infectious Etiology 152
- Primary Hepatic Neoplasms 155

9. Pancreas Cytology **174**

Martha Bishop Pitman, Barbara A Centeno

- Specimen Preparation and Tissue Triage 174
- Normal Pancreas and Gastrointestinal Contaminants 176
- Pancreatitis 178
- Non-neoplastic Cysts 181
- Solid Neoplasms 183
- Cystic Neoplasms 195
- Metastatic Tumors 205

10. Kidney and Adrenal 211

Harvey M Cramer, Lester J Layfield

- Kidney 211
- Renal Cell Carcinoma, Clear Cell Type 215
- Papillary Renal Cell Carcinoma 220
- Chromophobe Renal Cell Carcinoma 222
- Benign Renal Neoplasms 228
- Adrenal 245
- Non-Neoplastic Lesions of the Adrenal 246
- Benign Adrenocortical Nodules Including Adenomas and Hyperplasia 246
- Adrenocortical Carcinoma 247

11. Male and Female Genital Tracts 258

Lester J Layfield

- Clinical Considerations 258
- Prostate 258
- Non-neoplastic Testicular Lesions 262
- Testicular Neoplasms 263
- Lesions of the Ovary, Cervix and Uterine Fundus 268

12. Musculoskeletal System 282

Lester J Layfield

- Musculoskeletal Lesions with a Myxoid or Mucinous Change 283
- Neoplasms of the Adipose Tissue 290
- Giant Cell Containing Lesions of the Musculoskeletal System 297
- Small Round Cell Tumors 302
- Polygonal and Epithelioid Neoplasms 311
- Pleomorphic Sarcomas 318
- Neoplasms with Cartilaginous Differentiation 319
- Bone Forming Lesions 323
- Spindle Cell Lesions 325

13. Pediatric Tumors 338

Jerzy Klijanienko

- General Considerations 338
- Lymphomas (Non-Hodgkin and Hodgkin Lymphomas) 339
- Retroperitoneal Tumors 340
- Round Cell Sarcomas and Other Connective Tissue Tumors 344
- Other Tumors 349

14. Skin and Superficial Subcutaneous Tissue 354

Lester J Layfield

- General Considerations 354
- Diagnostic Accuracy 354
- Complications and Adverse Outcomes 355

- Methodology 355
- Non-Neoplastic Cutaneous Lesions 355
- Cysts of the Skin and Superficial Subcutaneous Tissues 357
- Benign Epithelial Cutaneous Tumors 359
- Malignant Epithelial Tumors 361
- Spindle Cell Lesions of Skin 367

Index *371*