Table of Contents

VOLUME I

STRUCTURE AND FUNCTION OF BONE, JOINTS, AND CONNECTIVE TISSUE, 1

1 Biology of the Normal Joint, 1
2 Synovium, 20
3 Cartilage and Chondrocytes, 33
4 Biology, Physiology, and Morphology of Bone, 61
5 Muscle: Anatomy, Physiology, and Biochemistry, 67
6 Biomechanics, 79
7 Regenerative Medicine and Tissue Engineering, 90
8 Proteinases and Matrix Degradation, 97

CELLS INVOLVED IN AUTOIMMUNE DISEASES AND INFLAMMATION, 117

9 Dendritic Cells, 117
10 Mononuclear Phagocytes in Rheumatic Diseases, 134
11 Neutrophils, 152
12 Eosinophils, 170
13 T Lymphocytes, 174
14 B Cells, 191
15 Fibroblasts and Fibroblast-like Synoviocytes, 215
16 Mast Cells, 232
17 Platelets, 245

EFFECTOR MECHANISMS IN AUTOIMMUNITY AND INFLAMMATION, 255

18 Innate Immunity, 255
19 Adaptive Immunity and Organization of Lymphoid Tissues, 268
20 Autoimmunity, 281
21 Genetics of Rheumatic Diseases, 299
22 Epigenetics, 316
23 Complement System, 325
24 Prostaglandins, Leukotrienes, and Related Compounds, 340
25 Cell Recruitment and Angiogenesis, 358
26 Cytokines, 369
27 Cell Survival and Death in Rheumatic Diseases, 382
28 Experimental Models for Rheumatoid Arthritis, 400
29 Neural Regulation of Pain and Inflammation, 413
BROAD ISSUES IN THE APPROACH TO RHEUMATIC DISEASE, 431
30 Principles of Epidemiology in Rheumatic Disease, 431
31 Economic Burden of Rheumatic Diseases, 440
32 Clinical Trial Design and Analysis, 452
33 Assessment of Health Outcomes, 462
34 Biologic Markers, 476
35 Occupational and Recreational Musculoskeletal Disorders, 493
36 Cardiovascular Risk in Rheumatic Disease, 505
37 Cancer Risk in Rheumatic Diseases, 515
38 Introduction to Physical Medicine, Physical Therapy, and Rehabilitation, 528
39 Pregnancy in the Rheumatic Diseases, 540
EVALUATION OF GENERALIZED AND LOCALIZED SYMPTOMS, 559
40 History and Physical Examination of the Musculoskeletal System, 559
41 Acute Monoarthritis, 577
42 Polyarticular Arthritis, 587
43 The Skin and Rheumatic Diseases, 599
44 The Eye and Rheumatic Diseases, 617
DIFFERENTIAL DIAGNOSIS OF REGIONAL AND DIFFUSE MUSCULOSKELETAL PAIN, 625
45 Neck Pain, 625
46 Shoulder Pain, 639
47 Low Back Pain, 665
48 Hip and Knee Pain, 683
49 Foot and Ankle Pain, 700
50 Hand and Wrist Pain, 708
51 Temporomandibular Joint Pain, 721
52 Fibromyalgia, 733
DIAGNOSTIC TESTS AND PROCEDURES IN RHEUMATIC DISEASES, 753
53 Synovial Fluid Analyses, Synovial Biopsy, and Synovial Pathology, 753
54 Arthrocentesis and Injection of Joints and Soft Tissue, 770
55 Antinuclear Antibodies, 789
56 Autoantibodies in Rheumatoid Arthritis, 804
115 Poststreptococcal Arthritis and Rheumatic Fever, 1875

ARTHRITIS ACCOMPANYING SYSTEMIC DISEASE, 1889

116 Amyloidosis, 1889

117 Sarcoidosis, 1898

118 Hemochromatosis, 1907

119 Hemophilic Arthropathy, 1915

120 Rheumatologic Manifestations of Hemoglobinopathies, 1924

121 Endocrine Diseases and the Musculoskeletal System, 1927

122 Musculoskeletal Syndromes in Malignancy, 1934

123 Tumors and Tumor-like Lesions of Joints and Related Structures, 1951