Table of Contents

Section I Basic Science

1 Anatomy

2 Anatomic Aberrations

3 Clinical Examination of the Knee

4 Neurophysiology of the Knee

5 Surgical Approaches to the Knee

Section II Imaging of the Knee

6 Imaging of the Knee

7 Imaging of Painful Total Knee Arthroplasty

8 Magnetic Resonance Imaging of the Knee

Section III Biomechanics

9 Motion and Stability of the Normal Knee

10 Soft Tissue Reconstruction and Fixation in the Knee

11 Understanding Knee Arthroplasty Kinematics: News You Can Use

12 Alternative Bearings for Knee Articulation: Hopes & Realities

13 Computational Models Can Predict Polymer Insert Damage in Total Knee Replacements

14 Choosing Your Implant

15 The Retrieval Laboratory: Making Sense of Knee Implant Revisions

Section IV, Articular Cartilage and Meniscal Consideration

16 Articular Cartilage and Meniscus: Biology, Biomechanics, and Healing Response

17 Gene Therapy in the Treatment of Knee Disorders

18 Nonoperative Treatment of Knee Arthritis

19 Arthroscopic Treatment of the Degenerative Arthritis of the Knee

20 Debridement and Microfracture for Full-Thickness Articular Cartilage Defects

21 International Experience with Autologous Cartilage Transplantation

22 North American Experience with Autologous Cartilage Transplantation

23 Autologous Osteochondral Transplantation: The â€œMosaicplastyâ€ Technique

24 Autologous Osteochondral Transplantation: Background, Surgical Indications, and Results

25 Fresh Osteochondral Allografting
26 Allograft Osteochondral Transplantation: Bulk Graft
27 Articular Cartilage Injury: Algorithm for Clinical Management
28 Spontaneous and Secondary Osteonecrosis of the Knee
29 Osteonecrosis of the Knee
30 Healing of Knee Menisci
31 Arthroscopic Regeneration by Collagen Meniscus Scaffolding
32 Meniscal Allograft Transplantation
33 Osteotomy in the Sports Knee

Section V, Ligament Injuries

34 Classifications of the Knee Ligament Injuries
35 Knee Outcome Scales
36 Instrumented Ligamentous Laxity Testing
37 Medial Ligament Injuries of the Knee
38 Lateral Collateral Ligament Injuries
39 Anterior Cruciate Ligament Reconstruction with Bone-Patellar Tendon-Bone Autograft: Indications, Technique, Complications, and Management
40 Arthroscopic Anterior Cruciate Reconstruction with Hamstring Tendons: Indications, Surgical Technique, and Complications and Their Treatment
41 Allograft Anterior Cruciate Ligament Reconstruction
42 Double Bundle Anterior Cruciate Ligament Reconstruction
43 The Safe and Effective Use of Allograft Tissue
44 “Criteriaâ€​ Based Rehabilitation of the Surgically Reconstructed and Non-Surgical Anterior Cruciate Ligament Injury
45 Knee Bracing for Athletic Injuries
46 Revision Anterior Cruciate Ligament Surgery: How We Do It
47 Current Concepts in Posterior Cruciate Ligament Reconstruction
48 Posterior Cruciate Ligament Reconstruction
49 The Dislocated Knee
50 Posterolateral Corner Injuries
51 Functional Knee Tests and Outcome Scales
52 Disorders of the Proximal Tibiofibular Joint

Section VI - Patella and Extensor Mechanism Disorders

53 Disorders of the Patellofemoral Joint
54 Surgery of the Patellofemoral Joint: Indications, Effects, Results, and Recommendations
55 Quadriceps and Patellar Tendon Disruption

Section VII- Miscellaneous Conditions and Treatment

56 Inflammatory Arthritis of the Knee
57 The Synovium: Normal and Pathological Conditions
89 Fluoroscopic Analysis of Total Knee Arthroplasty
90 Cementless Total Knee Design
91 Cemented Total Knee Replacement: The Gold Standard
92 Minimally Invasive Total Knee Arthroplasty
93 Unicompartmental, Bicompartmental, or Tricompartmental Arthritis of the Knee: Algorithm for Clinical Management
94 Computer Assisted Knee Surgery: An Overview
95 Computer Navigated Total Knee Arthroplasty
96 Computer Assisted Total Knee Replacement
97 Imageless Computer Navigation in the Total Knee Arthroplasty: The Simpler Wave of the Future
98 Electromagnetic Computer-Assisted Navigation In Total Knee Replacement
99 Complications of Total Knee Arthroplasty
100 Revision of Aseptic Failed Total Knee Arthroplasty
101 The Infected Total Knee Replacement
102 Management of Bone Defects
103 Extensor Mechanism Disruption after Total Knee Arthroplasty
104 Transfusion, Avoidance, Blood Loss Management, and Total Knee Arthroplasty
105 Prevention of Thrombophlebitis in Total Knee Arthroplasty

Section XII- Tumors about the Knee
106 Evaluation of the Patient with a Bone Lesion about the Knee
107 Surgical Treatment of Benign Bone Lesions
108 The Surgical Management of Malignant Bone Tumors
109 Allograft â€“ Prosthetic Composite Reconstruction of the Knee
110 Megaprostheses for Reconstruction after Tumor Resection about the Knee
111 Metastatic Disease about the Knee: Evaluation and Surgical Treatment
112 Soft Tissue Tumors of the Knee